...cal Library

DEC 2 1 1945

BULLETIN OF THE HISTORY OF MEDICINE

ORGAN OF THE AMERICAN ASSOCIATION OF THE HISTORY OF MEDICINE AND THE JOHNS HOPKINS INSTITUTE OF THE HISTORY OF MEDICINE

Editor—HENRY E. SIGERIST

Associate Editor—GENEVIEVE MILLER

VOLUME XVIII NOVEMBER, 1945 NUMBER 4

CONTENTS

MAIN ARTICLES

Tuberculosis and Genius: Ralph Waldo Emerson: LEWIS J. MOORMAN 361

Hippocratic Writings in the Middle Ages: PEARL KIBRE 371

The Hebrew-Aramaic Element in Vesalius' *Tabulae Anatomicae Sex*: A Critical Analysis: MORDECAI ETZIONY 413

TEXTS AND DOCUMENTS

"Medical Consultation on the Case of Daniel Vanslyke. By C. S. Rafinesque, Pulmist &c. Philadelphia 10th Septr 1830." Edited by MABEL CLARE WEAKS 425

NOTES AND COMMENTS

A Note on the Centenary of John Goodsir's "Anatomical and Pathological Observations": RICHARD H. FOLLIS, JR. 438

Notes on Dr. John Morgan and His Relations with Italian Men and Women of Science: ANTONIO PACE 445

MEDICO-HISTORICAL NEWS AND ACTIVITIES 454

BOOK REVIEWS 458

THE JOHNS HOPKINS PRESS

BALTIMORE 18, MARYLAND

BULLETIN OF THE HISTORY OF MEDICINE

ORGAN OF THE AMERICAN ASSOCIATION OF THE HISTORY OF MEDICINE AND THE JOHNS HOPKINS INSTITUTE OF THE HISTORY OF MEDICINE

Editor—HENRY E. SIGERIST

Associate Editor—GENEVIEVE MILLER

Correspondence relating to the publication of papers should be addressed to The Editor, Bulletin of the History of Medicine, 1900 East Monument Street, Baltimore—5, Maryland, U. S. A.

Twenty-five reprints without covers will be furnished to contributors free of cost. An order slip for additional reprints, giving the cost, is sent with the galley proof to each contributor and must be returned immediately to the Editor.

The journal is published monthly, except August and September. Two volumes of at least 500 pages each are published during the year.

Subscription is $5.00 a year in the United States and its possessions; in Canada $5.75 a year; in foreign countries $5.50 a year. Single numbers, when available, will be 75 cents each. Members of the American Association of the History of Medicine receive the Bulletin on payment of $5.00 annual dues, of which $4.00 is for a year's subscription to the Bulletin.

This journal will publish book reviews, and publishers are requested to send review copies to the Editor.

Back numbers of Volumes II to VIII of the Bulletin of the History of Medicine are available through the Johns Hopkins Press for $5.00 a volume, of Volumes IX to XVII for $2.50 each. Volume I is out of print.

Supplements to the Bulletin are published at irregular intervals and are sold individually, whereby subscribers to the Bulletin are granted a reduction of price. Standing orders for the whole series of Supplements may be addressed to

THE JOHNS HOPKINS PRESS

BALTIMORE 18, MARYLAND, U. S. A.

A MONTHLY EXCEPT AUGUST AND SEPTEMBER

Made in United States of America

Entered as second-class matter January 3, 1935, at the post office at Baltimore, Maryland, under the Act of March 3, 1879.

BULLETIN OF THE HISTORY OF MEDICINE

ORGAN OF THE AMERICAN ASSOCIATION OF THE HISTORY OF MEDICINE
AND THE JOHNS HOPKINS INSTITUTE OF THE HISTORY OF MEDICINE

Editor—HENRY E. SIGERIST

Associate Editor—GENEVIEVE MILLER

VOLUME XVIII NOVEMBER, 1945 NUMBER 4

TUBERCULOSIS AND GENIUS: RALPH WALDO EMERSON

LEWIS J. MOORMAN

It was a May day in Summer Street, 1803, when the Great American Scholar first came to Boston. The parsonage of the First Church, where he was born, was only a stone's throw from the birthplace of Benjamin Franklin, the preceding century's great American philosopher. The mystery of birth was so commonplace and the potentiality of life so uncertain, his coming caused no appreciable change in the spirit of his own "coy spring." No one "saw the hid beginnings," no one dated "the morning prime." Yet, the spiritual and intellectual genes of eight generations, with their established Emersonian trends were clamoring for expression under the conditioning influence of environment. In the light of his lineage those who were apprised of his birth naturally believed that this son of William Emerson would possess innate refinement and intellectual promise; that he would go to Harvard and accept poverty in answer to prayer, and that eloquently he would preach.

If the clergy and the prescient Harvard professors could have divined the latent spark of genius, wherein potentially dwelt the fiery feud of creed and custom, they would have creased their brows and stirred uneasily in their chairs of accepted dogma, knowing that this child "unto victory born" had "stairs to climb" and new doctrines to define.

The reader must understand that this is not intended as a balanced biography of Emerson, but a brief discussion of a neglected phase of his

remarkable career; an effort to show " facts amidst appearances," and to relate them to his success in the field of creative endeavor.

Passing his life in brief review, we may say that he came from a dominant race which contributed rare social, spiritual and intellectual elements to the mold that shaped his destiny. His father, the Reverend William Emerson of the First Church in Boston, died of tuberculosis when Ralph Waldo was eight years of age, leaving him and his four brothers in the care of a wise and courageous mother who was described in the " Christian Examiner " as a woman " of great patience and fortitude, of the serenest trust in God, of a discerning spirit, and a most courteous bearing, one who knew how to guide the affairs of her own house, as long as she was responsible for that, with the sweetest authority, and knew how to give the least trouble and the greatest happiness after that authority was resigned. Both her mind and her character were of a superior order, and they set their stamp upon manners of peculiar softness and natural grace and quiet dignity. Her sensible and kindly speech was always as good as the best instructions; her smile, though it was ever ready, was a reward." This epitome of a great woman's life is given in full because, while Emerson, more than any of his brothers, resembled his erudite father, his future greatness must have been materially influenced by the long life of this mother with her sterling principles always unobtrusively faceting his distinctive personality. In spite of persistent poverty, her resourcefulness and her force of will made it possible for four of her sons to pass from the Latin School through the portals of Harvard College, where they satisfied their scholarly tastes and left their unsuspecting Alma Mater soon to cherish their achievements and one day to clutch at the glory the world accorded the second son of this famous family.

The frail, facile, self-sufficient Ralph Waldo, eschewing mathematics in favor of literature and placing the library above the class room, made little impression upon Harvard professors. Nevertheless, he won prizes for essays and declamations and experienced the rather questionable honor of delivering the Poem on Class Day after seven other students had declined. Thus we see the inadequate judgment of students and faculty spotlighted with an embarrassing focus which, down to this day, casts an inquisitive ray upon intelligence and aptitude tests.

After graduation Emerson reluctantly tried teaching, but this was not his mission. Impatient of meticulous routine, which curbed his restless spirit, no doubt he wanted to be free to prepare for a larger field which proved to be the pulpit temporarily, later the lyceum with its more cosmo-

politan appeal, and finally his essays and poems to supplement his eloquent voice and to secure to succeeding generations the benefits of his knowledge and the grace and beauty of his written words which afford "a more faithful index than the tongue." After much preparation, preaching, under a fixed Unitarian Creed, presented problems and limitations which proved to be more disturbing than those experienced in the field of pedagogy. At last he turned to writing in earnest, with the lyceum for the immediate dissemination of knowledge and the winning of bread. The story of his friendly, hospitable and intellectual life at Concord, which became a mecca for writers and philosophers, is well known. In the palmy days with Emerson as the magnet drawing literary celebrities from all parts of the world, it is easy to believe that the angel of erudition, though first stirring the waters at Harvard, may have spent much time hovering over this rural center of learning.

Emerson's muse, accustomed to fields and farms, cow paths and clustered whortleberries, refused to follow him abroad. All his great creative productions sprang from these humble sources. Away from Concord he could mingle with people and learn the ways of the world. He could outline, formulate and cogitate, but never satisfactorily create. His words had no wings until they were set to the music of his own rocks and rills and wooded hills.

It is unfortunate that we cannot, in detail, follow the evolution of his beneficent career in poetry, prose and philosophy. But everyone who has read Emerson intelligently has witnessed this evolution and has become intimately acquainted with the life and purposes of the author. The living picture of Emerson in his own writings justifies his conception of biography: "I have the feeling that every man's biography is at his own expense. He furnishes not only the facts, but the report. I mean that all biography is autobiography. It is only what he tells of himself that comes to be known and believed."

In addition to a wonderful spiritual and intellectual heritage, Emerson fell heir to the family strain of the tubercle bacillus. Though not transmitted directly from father to son as were the genes, for generations the germs of tuberculosis had infested the family tree: silently inhabiting each household; insiduously seeding the susceptible soil of succeeding generations. A distinguished living member of the family has informed the author that in all probability, his own calcified pulmonary scars came from childhood contact, as with mingled pleasure and pain he sat, entranced, upon the sharp knees of the aging scholar, listening to bedtime stories. In a personal letter, another illustrious member of the family

states that his own grandchildren represent the first generation to escape the dread disease. When Ralph Waldo was 19, his next younger brother, Edward, was off for Europe because Dr. Warren had advised a voyage for his health.

Arthur C. Jacobson[1] discussing tuberculosis and the creative mind says: "Loring tells us that Emerson was not vigorous as a schoolboy and another biographer writes that, as a boy, he was never seen to run. As a youth he was slender and delicate. We may look equally to his semi-invalidism as to his temperament and bent for an explanation of the fact that Emerson never acquitted himself well in any kind of college work. In mathematics he was a self-confessed 'dunce.' He knew literature, however, as hardly any other Harvard man had known it before. Although nearly six feet in height, he weighed only about 140 pounds when fully matured and in his best health. A study of his portraits reveals certain stigmata of the phthisical habit; narrow chest, sloping shoulders, small thorax . . . his health had not permitted him to take the regular course at the Theological School in 1823 and he had been merely approbated to preach. He was not subjected to any formal examination by the ministerial council which approbated him to preach. He once said that he would not have been able to qualify had an examination been held. It may be that the council was merciful, believing that the young man had not long to live and work."

In line with Emerson's belief that all biography is autobiography, he is permitted to tell, in his own words, the story of his physical frailty. When he was 23 he wrote: "Among my other scarecrows to fill the gaps of conversation are my lung complaints." A few weeks later, after giving up teaching, he wrote: "For me, I have resigned my understanding into the hands of my doctors Moody and Bliss and Warren." Soon he too had voyaged to Charleston, South Carolina, and later to St. Augustine, Florida, because of active tuberculosis. His submission to the mandates of disease were more galling than otherwise it might have been because of the delicate necessity of accepting the financial aid of "his helpful kinsman, Rev. Samuel Ripley." He writes from Charleston: "I think of going to the West Indies for greater heat." Instead of the Indies we soon find him in St. Augustine. In a letter home he says: "I believe myself to be a great deal better than I was when I came. The air and sky of this ancient, fortified, dilapidated sandbank of a town are really delicious. I am therefore decidedly relieved of my stricture (pleurisy)

[1] Jacobson, Arthur C., *Genius, Some Revaluations*, New York, Greenberg Publishers, 1926.

which seemed to hold its tenure from Boreas." After a short time he writes his brother William: "Tell them that I am better . . . but do not say more; for sometimes I distrust the improvements." In May, while returning North, he said: "I am not sure that I am a lot better or worse than when I left home in November . . . I am still saddled with the villain stricture and perhaps he will ride me to death."

At Boston in June, on the score of ill health, he said, . . . "I will not preach next Sunday . . . Very sorry, for how to get my bread? Shall I commence author? . . . Yet, I am no whit worse than when I was in New York but the lungs in their spiteful lobes sing Sexton and Sorrow whenever I only ask them to shout a sermon for me." In August he was "whortleberrying in Concord" and growing stouter. In October, "My health has mended with the weather, heat being my best medicine."

In January, 1828, he writes his brother William: "It is a long battle, this of mine betwixt life and death and 'tis wholly uncertain to whom the game belongs." In January, 1829, one month after his engagement to beautiful Ellen Tucker, he sounds this discerning note: "She is very ill and with that dangerous complaint which so often attacks the fairest in our stern climate." He learned "she was too lovely to live long." But while she lived he felt that his own life should be one with hers. Following this union, mutual in affection and affliction, there was a continuous struggle between "the force and delicacy of her soul and the weakness of her frame." There were fitful periods of blood spitting and fever associated with progressive physical frailty, ultimately ending in exhaustion and death; and then the annulling loneliness for the sensitive poet and philosopher with his charming young wife "nowhere yet everywhere." This shocking experience with the grim reaper, and the conflict between his conscience and his church lowered his resistance and accelerated the course of disease in his own body, thus initiating plans for his first trip abroad.

For his decision about the church he had sought solitude, where he made up his mind in his own way "under the brow and shaggy lid of the White Mountains." Some thought that "he had suffered a decisive defeat and that his career was ruined." But the secret forces shaping his future were beyond the ken of relatives and friends. In September 1832, his brother, Charles, wrote: "Waldo is very feeble." The euphoria often accompanying tuberculosis is well illustrated by the following comments from this ill-fated brother, unconscious of his own short tenure of life while furiously writing to William about Ralph Waldo's declining health. On October 9 he was a "little better"; on the 14th, "mending"; on the

19th, "better"; on the 20th, he was recovering from a new attack "of his tedious complaint, and looks very thin and is very weak." On November 27: "Waldo is sick again . . . very much dispirited . . . and talking of the South, the West Indies and other projects. . . . We may break up and disperse at any moment." And on December 3rd: "Waldo is mending a little perhaps. . . . He will probably go away this winter and by sea, but where he knows not nor any of us . . . and yet. . . ."

On December 10, Emerson wrote William: "My malady has proved so obstinate and comes back as often as it goes away, that I am now bent on taking Dr. Ware's advice and seeing if I cannot prevent these ruinous relapses by a sea voyage. I proposed to take a modest trip to the West Indies and spend the winter with Edward, but in a few hours the dream changed into a purpureal vision of Naples and Italy and that is the rage of yesterday and today in Chardon St. A vessel sails this week for Sicily and at this moment it seems quite probable I shall embark in it . . . the brig Jasper."

Later, after some delay, he sits and frets for the sea: "Truth is I am a-weary of my helpless hopeless arm chair. I gain nothing, I rot ever, and have a keen appetite for the stimulus of God's charitable air, which all the forms of bad weather in turn deny me but which is freely dispensed to such as sail upon the sea." The uncertainty in his own mind was voiced in these fatalistic lines: "If I get well and do well after the way of flesh, that is, I shall come back I suppose either via Leghorn or Havre next June, July or August."

In October, 1834, Edward dies in Puerto Rico of tuberculosis. Emerson's poignant grief and sense of loss is expressed in his lines: "In Memoriam." On May 9, 1836, was recorded the death of the brilliant young Charles Chauncy Emerson of "tuberculosis, the family scourge and New England's scourage." After speaking of the well filtered blood that ran in his veins, Oliver Wendell Holmes said of Charles: "Too bright to live . . . but O, too fair to die."

Thus, at the age of 33, Ralph Waldo Emerson had been sadly seasoned and chastened by disease and death, yet he had approximately 50 years to live with his own tuberculosis and to worry about the disease already present in his two remaining brothers, and the fear of its ravages in his immediate family. He lost his beautiful first born son, Waldo, at the age of five after three days of scarlet fever. His great sorrow is beautifully expressed in "Threnody." His second wife, the mother of this child, apparently suffered from tuberculosis, but bore three other children; two daughters and a son. No doubt all of these were infected through contact with their parents. It is known that the son, Dr. Edward Waldo

Emerson, developed active tuberculosis but secured an arrestment of the disease and reached his early eighties. In fact he was in Europe for his health when Emerson embarked upon his third and final journey abroad. In spite of this unhealthy heritage, which laid Emerson low in his youth, and in later life often caused his "Unserviceable limbs (to) forego the sweet delights he found in fields and farms," he wrote:

> Fear not, then, thou child infirm,
> There's no God dare wrong a worm:
> Laurel crowns cleave to deserts,
> and power to him who power exerts.

In November, 1843, he laments his physical limitations and measures the cost of "every page and every fancy." In December, 1844, we find this pathetic note: "I have always wanted to know how hill countries look in winter, but I doubt I shall never have vigor enough to go and see them." In 1847 he went abroad because he was invited to give lectures in England and Scotland but his physical activities were limited while in London because of his health.

In March 1848, he writes from London in a sad vein because his second trip abroad has cost too much and his wife and children had been ill and in want: "It must content you for the time, that I truly acknowledge a poverty of nature, and have really no proud defense at all to set up, but ill-health, puniness, and Stygian limitation." Later in a letter to William: "Give my love to mother, of whom I hear gladly what you tell me. She is to know that I suffered a little, when I first came here, from too much speaking, but have been in rude health all the rest of the months." While on the way home in July, 1848, he writes William: "I take to myself great praise for hiding my intellectual poverties by my diligence, to such a creditable extent, and not being cashiered long ago. Weak eyes, that will only serve a few hours daily; no animal spirits, and immense and fatal negative with our Anglican race. No Greek, no mathematics, no politics,—How the deuce man do you contrive to live and talk with this nervous exigent race? Alas, I know not how they have borne with me so long,—and the oddity and ridicule of it all, is,—given me a literary reputation too, which I made dangerous drafts upon, every day I live." Again in August he makes a similar confession of physical limitations: "for myself, I am so puny in my constitution that it is only by the strictest parsimony in husbanding my resources that I ever bring anything to pass and I have not any willingness to waste an ounce."

Apparently Emerson developed the art of wisely limiting his physical activities so he could live with his tuberculosis in relative comfort avoid-

ing serious breaks. This adjustment makes it unnecessary to further pursue the numerous minor exacerbations of his abiding affliction, but the continued physical frailty should be carefully noted in connection with his stupendous creative accomplishments. Obviously we are dealing with an unusual personality; a man with exceptional mental qualities, a soul though hard pressed by calamity, consistently rising above each of his successive misfortunes as though animated by some supernatural gift.

It is significant that Emerson closed his *Essay on Compensation* with a reference to the compensations of calamity.

This brief record of Emerson's health clearly indicates that his life was severely conditioned by the physical depletion of chronic tuberculosis with occasional acute and sub-acute episodes marking important epochs in his career. His response to this calamity was largely compensatory but possibly the strange psychic stimulation, often observed in those who suffer from tuberculosis, constituted a contributing factor. The compensatory reaction operating as a powerful stimulus comes chiefly through enforced physical inactivity. Giving up the accustomed pursuits of life must be recompensed. During the solitary course of tuberculosis many a sufferer has discovered the redeeming presence of a creative instinct. In *Greek Thinkers*, Gomperz, discussing the age of enlightenment, calls attention to the "heightened respect for reason and reflection as the supreme arbiters of human affairs, which may perhaps be termed intellectualism." The detachment often forced upon the victim of active tuberculosis, removing him from the world's conventional authority, affords time for reflection and the quiet exercise of reason, so characteristic of the free critical spirit of the Hellenic period. In addition to the compensatory urge so obvious in Emerson's career, we must consider the presence of a psychological excitation with a flair for creative accomplishment. Thus we see the dual influence of physical inactivity and mental excitation due to the toxins produced by the tubercle bacillus. While there is no scientific proof of the toxic stimulation of brain cells, there is ample clinical evidence to warrant the belief that such an influence exists even though its origin cannot be definitely established. This is attested by a study of medical, semi-scientific and popular writings over a period of two thousand years.

The theory of this toxic stimulation is supported by the fact that individuals suffering from tuberculosis and possessing unusual mental powers often manifest a dominant secondary personality overriding the inhibitions and conventions which curb behavior in the primary personality. This release of the secondary personality in the individual suffering from tuberculosis is similar to that occasionally noted in those who are addicted

to alcohol or opium. As examples of the latter, we cite two of Emerson's contemporaries, Coleridge and DeQuincy. In a letter from Arthur C. Jacobson, who first discussed Emerson's response to disease he says, "Emerson himself has supplied much clinical data; for that matter, his optimistic, enraptured, ecstatic psychology, no less than his own medical record, spells the toxins of tuberculosis. After the early conditioning of his mind by tuberculosis, this psychology persisted." Here we find an explanation of his sustained transcendentalism giving rise to literary productions such as "The Over Soul," "Self-Reliance," "Compensation" and "Heroism."

Emerson did not live in a "fine frenzy" consciously accelerating his creative efforts in defiance of disease, as did Schiller, Sidney Lanier and many fellow sufferers, who unceasingly pursued the fleeting moments with the ominous clatter of the speeding Black Horseman ringing in their ears. Apparently his genius was quietly and consistently stirred by a strange stimulus which caused him to covet each moment and to make frequent reference to his limitations as influenced by the flight of time. On one occasion while caring for his invalid first wife, he wrote, "My time is split into slivers." Again while conserving his candle, he said, "Time is burning at both ends." Emerson not only observed his own dual personality but he made bold to record the same, the one "toiled, compared, contrived, argued"; the other, "never reasoned, never proved, it simply perceived; it was vision; it was the highest faculty." He added: "In writing my thought, I seek no order, or harmony, or results."

Emerson's unconventional scholastic career at Harvard suggests that the tubercle bacillus had awakened his secondary personality long before his first obvious physical break prompted him to exchange the "northeast winds" of his beloved New England for Southern gales destined to swell psychological sails for a decisive voyage upon the sea of life.

At the age of 23 tuberculosis had separated him from loved ones and home and sent him among the "offscourings of the world" to fight the "family scourge," well entrenched in his susceptible thorax. No doubt this sad summation of afflictions would have overwhelmed the pallid youth, but for his ascending secondary personality which helped to achieve a sudden intellectual and spiritual maturity. His letters of this period indicate a dedication of his life to "Truth, serene, immutable, divine Truth" colored by a "bias from everlasting beauty" and a love of the "harmonies that are in the soul." A resourceful, transcendent philosophy for a youth of 23.

Back from Florida, Emerson struggled with his soaring aspirations in

the face of ever recurring exacerbations of his tuberculosis. After five years this ever ebbing toxemia initiated the second great epoch in his life by driving him to Sicily, Italy, France and England for communion with the past and direct contact with its treasures; also companionship with the living great in literature and art. Significant among the latter was Carlyle who had inspired the young American Scholar through his publications and correspondence. His visit to this self-possessed literary hermit in the "desolate heathery hills" made a lasting impression upon Emerson and welded a life-long friendship which mutually proved to be of the greatest importance. He returned home physically improved and psychologically aflame, only to have the significance of his ominous malady accentuated by the death of Edward and Charles in close succession. No doubt, the remarkable little volume "Nature" was, in part, compensation for this calamity. It was too original for immediate wide acceptance. But, while biding his time, he was cheered by Carlyle's approval, "Your little azure-colored 'Nature' gave me true satisfaction. I read it, and then lent it about to all my acquaintance that had a sense for such things; from whom a similar verdict always came back. . . . I rejoice much in the glad serenity of soul with which you look out on this wondrous dwelling-place of yours and mine."

A year later, 1837, came the picturesque presentation of "The American Scholar," holding the assembled Phi Beta Kappas spellbound, proposing originality in American literature with currents of thought from America to Europe rather than from Europe to America. Reluctantly passing ten years of balanced physical and mental endeavor, with remarkable intellectual achievements, we find that on his second trip abroad, Emerson missed much because of physical limitations, yet his "English Traits" leads us to doubt if any American ever saw so much in so short a time. Evidently his acquisitive, secondary personality was still in the saddle.

From this date to the time of his death Emerson's career was less obviously influenced by his health and often his lecture tours taking him across the Mississippi required exceptional physical endurance. Yet it is obvious his disease largely determined the pattern of his life. Having established our theme we recommend the serenity of the succeeding three and a half decades of Emerson's life to those who seek solace in this exigent world.

ACKNOWLEDGMENT

Many of the quotations from Emerson's correspondence were taken from *The Letters of Ralph Waldo Emerson* by Ralph L. Rusk, Columbia University Press, New York, 1939.

HIPPOCRATIC WRITINGS IN THE MIDDLE AGES *

PEARL KIBRE

The searching light of modern historical and textual criticism has done much to render the author Hippocrates a shadowy figure for whose existence and exact literary output the actual historical evidence is surprisingly meagre. But it has done little to dim the lustre of the Hippocratic tradition and has in no way diminished the essential core of medical writings labelled Hippocratic from antiquity to the present time.[1] The preservation of these writings through all the vicissitudes of the ancient world and their transmission to the west provides an interesting illustration of the continuity of medical thought. Although several of the works now included in the Hippocratic corpus were neglected for more than a thousand years by medieval medical authorities in the Latin west, a sufficient number circulated under the name of the physician of Cos to warrant our use of the term, the medieval Hippocratic collection. Some of the works that were revered in the annals of medieval medicine have been rejected by modern scholars as clearly fabrications of the middle ages. Others were probably by disciples of Hippocrates. It is not, however, the purpose of the present study to reopen the question nor to reexamine the problems of authenticity or spuriousness of the alleged Hippocratic writings. Rather its aim is to ascertain the extent to which such works were known in the middle ages, and to take note of all of the works that were propagated in the middle ages in the name of the renowned physician of Cos, without regard to their authenticity or lack of it. In so doing, it is hoped that not only will the general character and continuity of Hippocratic thought be indicated, but also that some light may be shed on the nature of medieval medical interests.

The transmission of Hippocratic writings to the west [2] follows closely the pattern of the transmission of much of the learning of classical antiquity

* I wish to express my appreciation to the staff of the library of the New York Academy of Medicine, and to the staff of the Columbia University library for making available to me their rich stores of early medical, bibliographical, and periodical material.

[1] L. Edelstein, "The genuine works of Hippocrates," *Bulletin of the history of medicine*, 1939, vol. 7, pp. 236-48, and the references cited on p. 248, note 36. For a recent bibliography of writings on Hippocrates see Miriam Drabkin, "A select bibliography of Greek and Roman medicine," *loc. cit.*, 1942, vol. 11, p. 403.

[2] O. Temkin, "Geschichte des Hippokratismus im ausgehenden Altertum," *Kyklos*, 1932, vol. 4, pp. 18 ff.

to medieval Europe. The early church fathers who tended to look unfavorably upon pagan writings in their preference for the teachings of the Holy Scriptures, even while they disapproved, called attention to the names and works of many of the classical authors whose sphere of influence they thus expanded and perpetuated. Tertullian,[3] St. Cyprian,[4] and St. Ambrose,[5] revealed their acquaintance with the work of the noted physician of Cos; while St. Jerome, more favorably inclined, not only referred to the Hippocratic *Aphorisms* by name, but also cited directly the Hippocratic principle of the cure of diseases by their opposites, and commended as desirable and worthy of imitation by clerics the ethical admonitions contained in the Hippocratic oath administered to all prospective physicians.[6] In spite of the traditional hostility of many ascetics to the medical profession because of the physician's emphasis upon bodily rather than spiritual well-being, it was through the agency of the monastic establishments that Hippocratic writings were preserved in Latin translation, were copied, and transmitted to various parts of Europe in the early middle ages. Thus Cassiodorus who was responsible for the gathering together of so many works of classical antiquity instructed the monks at Vivarium, who were untutored in Greek, to read Hippocrates in Latin translation in the volumes contained in the library which he himself had constructed and stocked. These Hippocratic writings were described as "a tract on herbs and cures, and various other compositions relating to the art of healing."[7]

From Italy the Hippocratic writings were carried to other parts of the continent. They were cited by such well known compilers as Isidore of Seville in the seventh century, and Rabanus Maurus in the ninth century.[8]

[3] "De anima," cap. xv, *Patrologiae cursus completus*, Series latina, ed. J. P. Migne, Paris, 1878, vol. 2, cols. 711-12.

[4] "Epist. ad Magnum, De bapt. novatianis, xiii," *loc. cit.*, 1865, vol. 3, col. 1196, and note.

[5] "De noe et arca," cap. xxv, *loc. cit.*, 1866, vol. 14, col. 424.

[6] "Hippocrates in Aphorismis docet . . ." *loc. cit.*, 1865, vol. 23, col. 313; "iuxta Hippocratem contrariorum contraria esse remedia . . ." *loc. cit.*, 1877, vol. 22, col. 1007; "Epist. LII ad Nepotianum, De vita cleric. et monach.," *loc. cit.*, vol. 22, col. 539. See also *loc. cit.*, 1865, vol. 23, col. 222-23. For the Hippocratic theory of opposites, see Hippocrates with an English translation by W. H. S. Jones, Loeb classical library, 1923, vol. I, pp. xlviii, 4, 35.

[7] "De inst. div. litt.," cap. xxxi, *Patrologia*, 1865, vol. 70, col. 1146-47; and see E. G. Vogel, "Ueber einige frühere italienische Bibliotheken," *Serapeum*, 1841, vol. 2, p. 55, items XXIII, and XXVI; Stephen d'Irsay, *Histoire des universités françaises et étrangères*, Paris, 1933, vol. I, pp. 100-101.

[8] "Etymol." lib. IV, cap. iii-iv; lib. XIV, cap. vi, de insulis . . . (18) Coos, *Patrologia*, 1850, vol. 82, col. 515, 714; "De universo," lib. XVIII, cap. v, *loc. cit.*, 1864, vol. 111, col. 500-501.

Both these authors repeat the statement found in Pliny [9] that Hippocrates was the restorer of medicine to the light of day, but Rabanus Maurus has a more extensive account of medicine than does Isidore. He repeats the doctrine of the four humors in relation to diseases [10] which was to become one of the basic pillars of medieval medicine, and which is found in several of the Hippocratic works current from an early period in the west. Alcuin, the grammar master imported by Charlemagne from the British Isles, turned to the books of that " very ancient and distinguished physician, Hippocrates," to support his reference to prenatal impressions for an explanation of the diversity of offspring from their parents. Alcuin attributes to Hippocrates the tale that once when a mother, who had given birth to a very handsome boy utterly unlike either of his parents, was in danger of punishment on suspicion of adultery, the physician solved the problem by inquiring whether by chance there was a picture resembling the boy in the bedchamber. Upon finding that there was, the woman was freed from suspicion.[11] Richer, the tenth century monk of Reims, reported in his *History*,[12] which he dedicated to Gerbert, archbishop of Reims, upon the eagerness with which he studied the *Aphorisms* and *Prognostics* of Hippocrates, as well as the " Concordia Ypocratis, Galieni, et Surani." [13] Fulbert, bishop of Chartres (1006-1028), in his poem in honor of Panteleon, also paid tribute to Hippocrates.[14]

The continued currency of Hippocratic writings throughout the early middle ages is attested by their inclusion in library catalogues throughout Europe from the eighth, ninth, tenth, and eleventh centuries, and by extant manuscripts dating from the ninth and tenth centuries.[15] In an

[9] *Nat. hist.*, lib. IX, cap. i.

[10] " Morbi omnes ex quatuor nascuntur humoribus, id est ex sanguine et felle, melancholia et phlegmate, . . ."

[11] " Exegetica, Interrog. et respons. in Genes.," Inter. 234, *Patrologia*, 1863, vol. 100, col. 550-51.

[12] *Richeri hist.* lib. IV, cap. 50 (ed. G. Waitz, Hanover, 1877, pp. 151-53); L. C. MacKinney, *Early medieval medicine*, Baltimore, 1937, pp. 121 ff.; also in *Bulletin of the history of medicine*, 1934, vol. 2, pp. 348 ff.

[13] For the possible identification of the last named work see L. C. MacKinney, *loc. cit.*, 1934, Vol. 2, p. 359, note 34; also V. Rose, *Die Handschriften-Verzeichnisse der K. Bibl. zu Berlin* (Codices Philippici), 1893, vol. 1, p. 165.

[14] L. C. MacKinney, *Early medieval medicine*, 1937, pp. 133 ff.; note 257 (p. 205).

[15] L. Maitre, *Les écoles épiscopales et monastiques en occident avant les universités (768-1180)*, 2nd ed., Paris, 1924, pp. 165, 187-88: catalogue of St. Gaul library in the 8th cent., Hippocrati et Galeni precepta ad morbos curandos . . .; also for the 9th cent., Hippocrates, De medicina. For interest in Hippocratic writings prior to the twelfth century see L. C. MacKinney, " Tenth century medicine," *Bulletin of the history of*

eleventh century compendium of medicine (*Ars medicinae*) there is an account of the life of Hippocrates, also of the famous "Oath," and "Epistolae," containing a regimen of health, attributed to Hippocrates.[16] The availability of Hippocratic writings was further insured in the late eleventh century by their translation from Arabic into Latin by Constantinus Africanus.[17] In the following century, John of Salisbury complained in his *Metalogicus*, of the young doctors who returned from Salerno or Montpellier, boasting of their acquaintance with Galen and Hippocrates.[18] The Hippocratic works appear more frequently in library catalogues, and they are included in a list of textbooks from the late twelfth century.[19] Not only physicians but also prominent churchmen and other scholars took cognizance of the importance attached to Hippocratic writings. In the *De medicina animae* [of Hugh of Folieto?], there are set forth from the Hippocratic *Prognostics*, the nine signs by which a physician might recognize the good or bad portents of a disease,[20] while St. Bernard of Clairvaux berated those who followed the advice of Hippocrates and his disciples in the hope of saving themselves in this world at the same time that they neglected their spiritual welfare for the life hereafter.[21] Adam

medicine, 1934, vol. 2, pp. 358, note 31 ff.; also his *Early medieval medicine*, 1937, pp. 52-53, 77, 97, 98, 180 ff.; 189 ff.; 201-202; Thorndike, *History of magic and experimental science*, New York, 1923, vol. 1, pp. 732 ff.; H. Rashdall, *Medieval universities*, New ed., by Powicke and Emden, Oxford, 1936, vol. 1, pp. 78-79; H. Kühlewein, "Beiträge zur Geschichte und Beurtheilung der Hippokratischen Schriften," *Philologus*, 1884, vol. 42, pp. 119 ff., listing two Monte Cassino MSS (nos. 69, 9th cent.; 97, 10th cent.). Cf. J. W. Thompson, *Medieval libraries*, Chicago, 1939, p. 172, where the *Prognostics* and *Aphorisms* are listed among the works copied by the monks at Monte Cassino in the late tenth century.

[16] R. Laux, "Ars medicinae: ein frühmittelalterliches Kompendium der Medizin," *Kyklos*, 1930, vol. 3, pp. 417 ff.

[17] Muratori, *Rerum italicarum scriptores*, Milan, 1723, vol. 4, pp. 455-56; Thorndike, *op. cit.*, 1923, vol. 1, p. 750; C. H. Haskins, *Studies in the history of mediaeval science*, Cambridge, 1927, pp. 3 ff.; Rashdall, *op. cit.*, 1936, vol. 1, pp. 85-86, additional note to Chapter III by the recent editors. See also M. Steinschneider, "Die Europäischen Übersetzungen aus dem Arabischen," in *Sitzungsberichte der K. Akad. der Wissensch. in Wein*, Phil. Hist. Kl. 1905, vol. 149, pp. 10-11.

[18] Lib. I, cap. iv, *Patrologia*, vol. 199, col. 830, cited by L. R. Loomis, *Medieval hellenism*, Penna., 1906, p. 85, note 1.

[19] G. Becker, *Catalogi bibliothecarum antiqui*, Bonn, 1885, pp. 232, 233, 243-44, 247; L. Delisle, *Le cabinet des manuscrits de la bibliothèque nationale*, Paris, 1874, vol. 2, pp. 455, 476; K. Sudhoff, in *Archiv für Geschichte d. Medizin*, Leipzig, 1916, vol. 9, pp. 348 ff., where is discussed the contents of a medical library at Hildesheim, ca. 1160; L. Maitre, *Les écoles épiscopales*, 1924, pp. 191, 193, 196. See also Haskins, *op. cit.*, 1927, pp. 67 ff.; 369, 374, for the list which is probably by Alexander Neckham; L. C. MacKinney, *Early medieval medicine*, 1937, pp. 210-11.

[20] Cap. ix-xviii, *Patrologia*, 1880, vol. 176, col. 1195 ff.

[21] "Sermones in Cantica," Sermo XXX, 10; *loc. cit.*, 1879, vol. 183, col. 938-39.

the Praemonstratensian (c. 1180), compared the insistence by physicians, following the teachings of Hippocrates, that the patient be purged of the poisons that bring on and nourish his illness, to the demand of the church that the sinner be cleansed of the causes of his sins.[22] Peter of Blois, the learned secretary of Frederick Barbarossa, also gave evidence of his acquaintance with Hippocrates.[23] In addition the physician of Cos appears to have been represented among the authorities utilized for several scientific or pseudo-scientific compilations of the twelfth century, namely in the *Philosophia* by Daniel of Morley; in the Marseilles "planetary tables, drawn up by a certain Raymond of Marseilles in 1140"; in the treatise by an anonymous computist apparently compiled in England in 1175; and as one of the sources of the dream book, *Liber thesauri occulti*, compiled by Paschal, the Roman, at Constantinople in 1165.[24]

The thirteenth century saw an even wider interest in the Hippocratic writings. The continued regard for the Hippocratic tradition, which at Salerno was reflected in the ordinance by the emperor Frederick II, in 1231, that at Salerno students in medicine be required to attend lectures on Hippocrates and Galen,[25] was also indicated in the rest of Europe. Richard of Furnival, chancellor of the church of Amiens, and himself a physician, authorized to practice surgery, had in his *Bibliomania* under Hippocrates' name a collection of letters and other works, comprising a "Book of Hippocrates' replies" or "solutions" to questions of Aristotle, the "Prognostics," "Regimen for acute diseases," with its fourth particula, which is said to be rare, the book "Of epidemics," "On sudden death," and "On the prognostics of Democritus." There were also Galen's commentaries on the Hippocratic *Aphorisms*, *Prognostics*, and *Regimen for acute diseases*; and in addition the commentary of Oribasius on the *Aphorisms*.[26] Hippocrates was listed among learned Greeks in the *Summa*

[22] "Sermones in adventu domini," Sermo XIV, 1, *loc. cit.*, 1855, vol. 198, col. 174-75.

[23] Petit-Radel, *Recherches sur les bibliothèques*, Paris, 1819, p. 92; Pet. Blesensis, Epist. XC, ad M. Willelmum Blesensem Abbatem [c. 1169], *Patrologia*, 1855, vol. 207, col. 283, citing Hippocrates, lib. I, *De ratione victus*.

[24] Thorndike, *History of magic and experimental science*, 1923, vol. 2, pp. 172-73, note; Haskins, *Studies in the history of mediaeval science*, 1927, pp. 87-88; 96-98, 218.

[25] Rashdall, *op. cit.*, 1936, vol. 1, p. 83, note 2; and on the relation of the School of Salerno to medical teaching see the recent study by P. O. Kristeller, "The school of Salerno," *Bulletin of the history of medicine*, 1945, vol. 17, pp. 138-94.

A *Practica* attributed to Bartholomaeus, which appeared frequently in German versions of the 13th century, claims to be based on Hippocrates; Dr. Franz Pfeiffer, in *Sitzungsb. der K. Akad. der Wissensch. in Wien*, Phil. Hist. Kl., 1863, vol. 42, pp. 111 ff., also J. Haupt, *loc. cit.*, 1872, vol. 71, pp. 466 ff.

[26] L. Delisle, *Le cabinet des manuscrits*, vol. 2, pp. 532-33, 535, nos. 133, 135, 160;

philosophiae ascribed to Robert Grosseteste;[47] also in the index of authors compiled by Hugh of Tromberg in 1280;[48] and Hippocratic works were utilized by Albertus Magnus or by someone writing under Albert's name; while Hippocrates was included among authorities on the current doctrine of the influence of the stars upon health and the administering of medicines by Roger Bacon and Peter of Abano.[49] There were several references to Hippocrates in the so-called " Secret of secrets," or " Letter to Alexander the Great, on the regimen of health," attributed to Aristotle and edited by Roger Bacon.[50] Selections from Hippocratic writings were reproduced by Vincent of Beauvais in the *Speculum naturale*, and possibly spurious *Speculum doctrinale*.[51] " Ypocras and Galien," are noted as synonymous with " fisique," by Henri d'Andeli in the " Battle of the seven arts,"[52] and Hippocratic tracts were in all likelihood lectured upon at Paris.[53]

Nor did interest in Hippocrates' works wane in the fourteenth and fifteenth centuries. Dante recognized Hippocrates, " the great Coan, him, whom nature made to serve the costliest creature of her tribe," among the shades of the renowned Greeks of antiquity in Limbo, the first circle of Hell.[54] The Hippocratic *Aphorisms*, *Prognostics*, and *Regimen for acute diseases*, were included among the books to be lectured upon and

Histoire littéraire de la France, vol. 23, pp. 710 ff. On Richard of Fournival or Furnival, see Paul Meyer, in *Romania*, 1915-1917, vol. 44, p. 172, note 5 and the bibliography there cited. For the commentary on the *Aphorisms* ascribed to Ps. Oribasius, see below.

[47] Thorndike, *op. cit.*, vol. 2, p. 449.

[48] R. Sabbadini, *Le scoperte dei codici latini e greci ne'secoli xiv e xv*, Florence 1905, p. 19, note 92.

[49] Thorndike, *op. cit.*, vol. 2, pp. 575, 592, 671, 896; Compotus Rogeri Baconis, *Opera hactenus inedita*, ed. by R. Steele, Oxford, 1926, vol. 6, p. 61.

[50] *Opera hactenus inedita*, ed. R. Steele, Oxford, 1920, vol. 5, p. 165; also pp. 66, 81, 83. Roger Bacon quoted from the so-called letter addressed by Hippocrates to king Antiochus [Antigono] on the relation of seasons to health: " Compotus," *loc. cit.*, 1926, vol. 6, pp. 24, 28, 29, 31.

[51] *Speculum naturale*, [Nurembergae, 1485], copy at Union Theological Seminary, New York City, vol. 2, lib. XXXII, cap. xxxiii; xliii, L, lxx; vol. 1, lib. X, cap. xxi xxxii; lib. XI, caps. xv, xvi, xxv, xxvi, xliii; xliv, lix, xcix, cvii, cxxviii, cxxxviii; lib. XII, cap. xiii, xxviii, lxviii; lib. XVI, cap. lxxi; *Speculum doctrinale*, lib. XIV, cap. xvii, xli, lxxxvii; lib. XV, cap. cxxxii, where are cited the opening words of the *Aphorisms*, also at the end of lib. XVI.

[52] Ed. by L. J. Paetow (Memoirs of the Univ. of Calif., Berkeley, 1927), vol. 4, p. 45, item 99.

[53] Thorndike, *op. cit.*, 1923, vol. 2, p. 189, notes that Alexander Neckam cites lectures on Hippocrates at Paris. However, in the statutes of 1270, as reported by E. Wickersheimer (*Commentaires de la faculté de médecine de l'université de Paris (1395-1516)*, Paris, 1915, p. xxiv), Hippocratic treatises do not appear.

[54] *Divine comedy*, trans. by Rev. H. F. Cary, Purg. XXIX, l. 133-34; Hell IV, l. 139.

studied by prospective candidates for degrees in medicine at Paris, and Oxford.[36] They were prescribed for the license in medicine at Montpellier in 1309,[38] and at Bologna. The statutes of 1405 for the university of arts and medicine at the latter studium listed the tract *On acute diseases*, without the fourth book, and the *Prognostics*, both without commentaries for the ordinary lectures on medicine in the second year; the *Aphorisms*, except particula seven, for the ordinary lectures in the third year; and for the extraordinary lectures in that year, the *Prognostics* without commentary. In the fourth year, the *De natura* [*humana*] was to be given in ordinary lectures; and the *Aphorisms* without particula seven in extraordinary lectures.[37] At Pavia, Pietro Clerici was appointed in 1435 "to lecture on the *Pronostica* of Hippocrates at a salary of thirty florins."[38] In the statute regulations for the faculty of medicine at the university of Caen in 1439, it was stipulated that within fifteen days after the admission of a candidate for the degree of bachelor he was to begin lectures on the Hippocratic books. Seventy lectures were to be given on the *Aphorisms*; thirty-eight on the *Regimen for acute diseases*; and thirty-six on the *Prognostics*.[39] At Angers, the statutes of the medical faculty in 1484 required the prospective bachelor in medicine similarly to swear that within fifteen days he would begin lectures on the *Aphorisms* with Galen's commentary; also on the *Prognostics*; and on the *Regimen for acute diseases*.[40]

The currency of these works during the fourteenth and fifteenth centuries was reflected too in the increased number of such writings listed in library catalogues.[41] Guido da Bagnolo of Reggio d'Emilia (d. ca. 1370),

[36] In the statutes of 1331 and 1350 at Paris, the *Aphorisms* were to fill 50 lectures, the book on acute diseases, 38; and the prognostics, 26; Wickersheimer, *op. cit.*, pp. xxiv-xxv. On Oxford, see Rashdall, *Medieval universities*, 1936, vol. 3, p. 156.

[38] *Ibid.*, 1936, vol. 2, p. 127. Cf. George Manheimer, "Etwas über die Ärtze im alten Frankreich," *Rom. Forsch.*, 1891, vol. 6, pp. 592-95; and see Coquillart, *Les droits nouveaux*: "Venez . . . Médecins et Ypocratistes," (Les oeuvres de Guillaume Coquillart, ed. P. Tarbé, 1874, vol. 1, p. 72). Rashdall (*op. cit.*, vol. 2, 138), notes that "In 1537 a new era is marked by the announcement of a course of lectures upon Hippocrates in the original Greek by the illustrious Rabelais."

[37] L. Thorndike, *University records and life in the middle ages*, New York, 1944, pp. 280-81, citing C. Malagola, *Statuti dell'univ. e dei collegi dello studio bolognese*, 1888, pp. 274-76. D'Irsay noted that at Salerno Hippocratic influence continued through the fourteenth and fifteenth centuries and that Hippocratic medicine was one of the bases of its teaching (*Hist. des univ. françaises*, 1933, vol. 1, p. 107, note 7); P. O. Kristeller, in *Bulletin of the history of medicine*, 1945, vol. 17, pp. 138 ff.

[38] Thorndike, *University records*, 1944, p. 325, note 14.

[39] *Ibid.*, p. 321, from Fournier, *Les statutes et privilèges*, Paris, 1892, vol. 3, p. 167.

[40] Fournier, *op. cit.*, 1890, vol. 1, p. 408.

[41] See for example, M. R. James, *The ancient libraries of Canterbury and Dover*, Cambridge, 1903, pp. 56-57, 58, 61, 81, 122, 133, 134, 138; 333-39, 344-46; 481, 483, 484.

physician to the king of Cyprus, in his testament of October 12, 1364, listed among the books which he deeded to the young men of Reggio who should go to the university of Bologna, one work of Hippocrates, and seven by Galen.[42] In the library of Charles, duke of Orléans, in the early fifteenth century, was a volume containing the *Aphorisms*, *Prognostics*, and *Regimen acutarum*, which had been won at a game of chess by the duke from Jehan Cailleau, a student in the faculty of medicine at Paris.[43] Hippocratic writings also found a place between 1316 and 1420 in the library of the popes at Avignon, in two volumes of the *Articella* (nos. 729, 730), which contained the *Aphorisms*, and *Regimen acutarum*, with Galen's commentary; also in another collection of Hippocratic texts (no. 748), comprising the *Aphorisms*, *Prognostics*, *Regimen acutarum*, *De pharmaciis*; *De humana natura*, *Secreta*, and *Castigationes et vita Ypocratis*; and in still a fourth codex (no. 953), which contained the tract on the "Judgments of the stars," under Hippocrates' name.[44] The Vatican library in the fifteenth century, in the pontificate of Sixtus IV, and in that of Nicholas V, had several volumes of collected works of Hippocrates, one of which was borrowed by Andreas Brentius, the translator and editor, on June 21, 1479, and returned in June, 1480. There was also in the library a copy of the tract entitled, *De alimentis*.[45] Hippocrates was represented too in the library of the dukes of Urbino.[46] A very considerable collection of Hippocratic tracts was listed in the 1412 catalogue of the library of Amplonius Ratinck at Erfurt. Included were several texts with commentaries of the *Aphorisms*, *Prognostics*, *Regimen of acute diseases*, *Secrets*, also the *Law*, the *Epistle* on the four humors of the human body, astrological tracts, one of them entitled: "On the recognition of diseases according to the course of the moon."[47] There were also listed

[42] R. Sabbadini, *Le scoperte, nuove ricerche*, Florence, 1914, pp. 164-65, note 44.

[43] P. Champion, *La librairie de Charles d'Orléans*, Paris, 1910, pp. 46-47; cf. Delisle, *Cabinet*, vol. 1, p. 117. And see note 130 below.

[44] M. Faucon, *La librairie des papes d'Avignon*, Paris, 1887, vol. 2, pp. 124, 125, 141.

[45] Müntz et Fabre, *La bibliothèque du Vatican au XV^e siècle*, Paris, 1887, pp. 215, 216, 235, 282. The library of Nicholas V included a Greek text of the Aphorisms, *ibid.*, pp. 334, 342.

[46] James Dennistoun, *Memoirs of the dukes of Urbino*, London, 1851, vol. 1, p. 157-58. The inventory published by C. Guasti, (*Giornale storico degli archivi toscani*, 1862, vol. 6, pp. 127-147; 1863, vol. 7, pp. 46-55, 130-54), only indicates one Greek codex containing the name of Hippocrates, (item 699).

[47] W. Schum, *Beschreibendes Verzeich. d. Ampl. Hdsch.-Sammlung zu Erfurt*, Berlin, 1887, pp. 822 ff.

"a very fine old herbarium of Hippocrates with illustrations";[48] the *Book of epidemics*, and a *Book of prescience* (liber prescience).[49]

The fourteenth and fifteenth centuries further saw a number of new translations directly from the Greek. Outside the orbit of humanistic activity were those made at the court of king Robert of Sicily (1310-41),[50] especially by Nicholas of Reggio (1308-45), while the humanist translators, Filelfo, George Valla, Theodorus Gaza, Janus Lascaris, and others in the fifteenth century directed their attention as well toward those Hippocratic works that had long been familiar to the lay and ecclesiastical world as toward works that had been hitherto unknown in the Latin west. This was reflected too in the activities of those humanists interested in the resuscitation and collection of Greek texts. Giovanni Aurispa in his travels to the east between 1405 and 1413, brought back collections of Greek codices, among them one of Hippocrates;[51] Giovanni Tortelli, author of the *Orthographia*, went in the years 1435-1438 to Constantinople to study Greek, and collected works of Hippocrates among other Greek writings which he utilized for his work.[52] Ciriaco of Ancona, and likewise Rinuccio of Castiglione, or of Arezzo, in company with Aurispa, travelled to the east and brought back a number of volumes including a collection of letters by Hippocrates which were later translated by Rinuccio for pope Nicholas V.[53] Poggio on his visit to the east was commissioned by Guarino of Verona to obtain a copy of the *Aphorisms*,[54] and in 1427 Francesco Filelfo during his visit to Constantinople enumerated in a letter to Traversari the Greek volumes that he had brought back to Italy. Among others these comprised the *Epistolae*,[55] attributed to Hippocrates, and probably the two works, *De flatibus* and *De passionibus*, which he had in his library, and later translated into Latin.[56] A rich yield in Hippo-

[48] *Ibid.*, p. 828, item 71, "Item herbarium antiquum Ypocratis valde bonum cum picturis."

[49] This is probably the same as the "Capsula eburnea," or "Secreta," noted below.

[50] R. Sabbadini, *Le scoperte, nuove ricerche*, 1914, p. 31; *Ibid.*, 1905, p. 71.

[51] *Ibid.*, 1905, pp. 46-47, note 32.

[52] *Ibid.*, 1905, p. 50; Appendix b, pp. 69-70.

[53] Sabbadini, *op. cit.*, 1905, p. 49; Appendix a, p. 69; G. Voigt, *Die Wiederbelebung des class. Alterthums*, 1893, vol. I, p. 279; vol. 2, pp. 84, 190.

[54] Sabbadini, *op. cit.*, 1905, p. 45, note 13; and see below.

[55] A. Calderini, "Intorno alla biblioteca e alla cultura greca del Filelfo," *Studi ital. di filologia classica*, 1913, vol. 20, p. 217; *Epistolae Ambros. Traversari, Cam.*, lib. XXIV, epist. xxxii (ed. L. Mehus, Florence, 1758, vol. 2, p. 1010).

[56] Calderini, *loc. cit.*, p. 325 ff., note 1 ff.: Hippocrates', *liber de flatibus*, and the *liber de passionibus corporis*, are cited in a list probably autograph of the works of Filelfo preserved in Archivio di Stato at Milan, *loc. cit.*, p. 213.

cratic texts resulted from the literary travels of Janus Lascaris, the de' Medici agent. At one time he purchased for Lorenzo de'Medici, Greek manuscripts of the tracts "On joints and dislocations," (de ligaminibus et dislocacionibus),[57] while the list of works that he brought back from his trip to the Peloponnesus in 1490, at the request of Lorenzo, included a "Collection of the sayings of Hippocrates," the "Regimen in acute diseases," a commentary by Stephanus on the "Prognostics"; Galen's commentary, "On the nature of man"; and that on the *De salubri dieta*, also the glosses of a certain John on the *De natura pueri*, in addition to Galen, "On the elements according to Hippocrates," and "Against Julian for the Aphorisms of Hippocrates." There was also a large codex containing works on surgery by eminent physicians including Hippocrates, with illustrations of joints and the necessary instruments.[58] The interest of the humanists in works well known to their predecessors is reflected in Poliziano's borrowing on July 9, 1491, from the de'Medici library, a copy of Hippocrates "antiquus," and two months later, Hippocrates "novus," apparently the translations by Constantinus Africanus and Theodorus Gaza, respectively.[59] Lorenzo Valla in a letter to [Giovanni] Tortelli, written from Naples in 1448, reported that he had bought in that city a work of Hippocrates that was once the property of king Robert of Sicily, that he had read almost all Hippocrates' works and had found in them something for the embellishment of his glosses.[60]

Turning now from these evidences of the general currency and interest in Hippocratic writings throughout the middle ages to the concern with individual treatises; and to an examination of their nature and contents, it is at once apparent that the best known of all these works was the *Aphorisms*. This collection of disjointed propositions or terse statements on diseases and their cures, with its arresting opening words, "Life is short, but the art is long . . ." was known as "the physicians' Bible" as late as the nineteenth century,[61] and had become for Dante synonymous

[57] E. Piccolomini, "Due documenti relativi ad acquisti di codici greci, fatti da Giovanni Lascaris per conto di Lorenzo de'Medici," *Rivista di filologia*, Torino, 1874, vol. 2, p. 413.

[58] Legrand, *Bibliographie hellénique*, vol. 2, p. 326; E. G. Vogel, "Litterarische Ausbeute von Janus Lascaris' Reisen im Peloponnes um's Jahr 1490," *Serapeum*, 1854, vol. 15, pp. 158-59.

[59] J. W. Thompson, *The medieval library*, Chicago, 1939, p. 551.

[60] R. Sabbadini, *Le scoperte dei codici*, 1905, p. 71; R. Sabbadini, "Due questioni storico-critiche su Quintiliano," *Rivista di filologia*, Torino, 1892, vol. 20, p. 322: "Emi Hypocratem, qui fuit Roberti; legi fere omnia illius opera, ubi aliquid ad ornamentum glosarum inveni: . . ."

[61] Hippocrates, with an English translation by W. H. S. Jones, Loeb classical library,

with the medical art (*Paradisio*, canto XI, l. 4).[62] A Latin version of the work appeared early in the west in a collection of medical tracts translated between the fifth and early sixth centuries, probably for the monks of southern Italy.[63] Manuscripts of this translation with the commentary probably of Galen, are extant from the ninth and tenth centuries at the Hunterian library in Glasgow, at Karlsruhe, and at Monte Cassino.[64] The dissemination of the *Aphorisms*, indicated before the close of the tenth century by their presence in library inventories, contemporary citation and extant manuscripts, was further accelerated by the translation from the Arabic at the close of the eleventh century made by Constantinus Africanus.[65] A second translation directly from the Greek was made

1931, vol. 4, p. xxxiii; R. Fuchs, *Geschichte d. Heilkunde bei den Griechen*, Puschmann, *Handbuch der Gesch. d. Medizin*, Jena, 1902, vol. 1, p. 229, item 50: Burton Chance, "On Hippocrates and the Aphorisms," *Annals of medical history*, 1930, n. s., vol. 2, pp. 31-46; D. C. G. Kühn, *Medicorum Graecorum opera quae extant*, Leipzig, 1827, vol. 23, p. 706 ff.; E. Littré, *Oeuvres complètes d'Hippocrate*, Paris, 1844, vol. 4, pp. 458-609.

[62] Cited by L. R. Loomis, *Medieval hellenism*, p. 85, note 4.

[63] Kühlewein, "Mittheilungen aus einer alten lateinischen Übersetzung der Aphorismen des Hippokrates," *Hermes, Zeitschrift für classische Philologie*, 1882, vol. 17, p. 487, describing the translation in Monte Cassino 97, 10th cent.

[64] Hunterian museum 404 (V. 3. 2), item 10 (Catalogue, 1908, p. 323); Karlsruhe (Hof- und Landesbibliothek, Die Reichenauer HSS.), CXX, 9th-10th cent., fol. 121 (Holder, Catalogue, 1906, pp. 306-307); Kühlewein, in *Philologus*, 1884, vol. 42, p. 121 ff., indicating Monte Cassino 69, 9th cent. Another 10th cent. MS. is reported by P. G. Meier, "Heinrich von Ligerz, Bibliothekar von Einsiedeln im 14. Jahrhundert," *Beiheft zum Centralblatt für Bibliothekswesen*, 1896, vol. 17, p. 61, item 313. Cf. H. E. Sigerist in *Bulletin of the history of medicine*, 1943, vol. 14, p. 91, where is noted the text of the *Aphorisms* in an Einsiedeln MS. (no. 313), of the 9th cent. See also Thorndike and Kibre, *Catalogue of incipits*, col. 404, (Introd.) "Medicina partitur . . ."; col. 777, "Vita brevis ars autem prolixa . . ."; H. E. Sigerist, *loc. cit.*, 1941, vol. 10, pp. 27-30, where the commentary is indicated as wrongly attributed to Oribasius. For an incomplete text in an 11th century MS., at Vendôme, of the same version with the commentary of Ps. Oribasius, see H. E. Sigerist, *loc. cit.*, 1943, vol. 14, pp. 90-91.

[65] Thorndike, *History of magic and experimental science*, 1923, vol. 1, pp. 750 ff., note 2; H. Diels, "Die Handschriften der antiken Aerzte," *Abhandlungen d. kgl. Preuss. Akad. d. Wissensch., Philos.-hist. Classe*, Berlin, 1905, vol. 1, pp. 12-17, henceforth indicated as Diels 1905, for vol. 1; or Diels 1906, for vol. 2; Thorndike and Kibre, *Catalogue of incipits*, Cambridge, 1937, col. 777, and see index; Vienna 253 [Rec. 1250], Fol. 12th cent., fols. 1v-47 (Hermann, *Die Ital. Handschr.*, 1927, vol. 3, p. 51); Kühn, *op cit.*, 1825, vol. 21, pp. lxv-lxvi, where are listed Latin MSS; G. Becker, *Catalogi bibliothecarum antiqui*, Bonn, 1885, with several 12th cent. citations: pp. 232, 247. See also M. R. James, *The ancient libraries of Canterbury and Dover*, Cambridge, 1903, pp. 56, 81, 122, 134, 138, 334 ff.; 345, 346, 483. There is a 13th cent. manuscript at the New York Academy of Medicine, no. 8, 7 fols., old foliation 31-37, on vellum. The text follows the translation of Constantinus Africanus and includes parts I-VI; and VII, sections 1-60, inc. "Vita brevis ars vero longa. . . ." A 14th cent. manuscript is at the Escorial (Antolin LIII. 8), Lat. 22 cm., fols. 16-37.

In the thirteenth century not only was the *Aphorisms* included by Richard of Furnival

shortly afterward by Burgundio of Pisa in the early twelfth century,[66] but this did not supersede that by Constantinus which held the position of the chief and most widely utilized translation known. Thus Taddeo Alderotti of Parma, the thirteenth century commentator on the *Aphorisms*, reported that in spite of the fact that he found Burgundio's translation superior to that of Constantinus, he felt obliged to use the latter as the basis of his commentary because it was more generally known than the former (non quia melior sed quia communior). He, however, corrected Constantinus' translation with the aid of that of Burgundio.[67] Other commentators and editors appear to have followed the same practice, for it was the translation by Constantinus from the Arabic, usually referred to as "versio antiqua," that was carried over into the earliest printed edition with the commentary of Jacopo da Forlì in 1473.[68] This translation of

in his *Bibliomania*, but it was cited directly by the author of the *De arte et venandi cum avibus* (Frederick II): Haskins, *Medieval science*, p. 316; and see note above. The work was also cited directly in the *Speculum doctrinale*, Lib. XV, cap. cxxxii; and at the end of Lib. XVI.

For Hippocrates' *Aphorisms* in Merton College between 1360 and 1385, see F. M. Powicke, *The medieval books of Merton College*, Oxford, 1931, pp. 139, 157.

[66] Haskins, *op. cit.*, 1927, pp. 145, 151-52, 208-209. In a Vienna manuscript, 2328 [Rec. 948], Fol., fols. 1-33, is the following: "Explicit commenta Galieni nove traductionis supra librum Ypocratis afforismorum translata a principio usque ad *tertianam veram* Parisius a Burgundione Pisano et a *tertiana vera* usque ad finem Neapolis a Nicolao de Regio scripta a magistro Nicolao de Karulo de Deliceto in civitate Neapoli anno domini 1314 [*sic*] Indictione 13 die lune 21. Ianuarii. Deo gratias. Amen. (Hermann, *op. cit.*, 1928, vol. 5, pp. 15-16). I have been unable to ascertain whether a further translation belonging either to the 13th century or earlier is that contained in the MS. at Cambridge, Peterhouse College 251, 13th cent., fols. 97v-102v, Incipit ars prologus amphorismorum Ypocratis . . . Amphorismorum Ypocratis [c]uius nove editionis ea causa extitit. Quoniam antique nullum eorum que vitiosis translationibus inesse adsolent culpe genus defuit. Adeo ut nec translatio merito debeat appellari sed potius veritatis oblatio. Inc. lib. 1, Vita brevis ars non [*sic*] longa . . . ." (M. R. James, *Catalogue*).

[67] Thorndike and Kibre, *Catalogue of incipits*, col. 354, 777. There is a 13th cent. MS. at Erfurt, Amplon. Oct. 63, fols. 1-116v. For the career of Taddeo, see Thorndike, *op. cit.*, 1934, vol. 3, p. 14, note 29; Haskins, *op. cit.*, pp. 208-9. The quotation is cited by Neuburger, *Geschichte der Medizin*, Stuttgart, 1911, vol. 2, part 1, p. 375. See also F. Puccinotti, *Storia della medicina*, Livorno, 1859, vol. 2, part 2, pp. 289 ff.; Powicke, *op. cit.*, p. 140, item 376. For Taddeo (1223-1295), see further Puccinotti, *op. cit.*, vol. 2, part 1, Appendix. In the Venice 1527, edition, the commentary ends with the 6th particula. The commentator adds: "Super 7a vero particula nihil immediate scribere intendo. Sed si quis de meis auditoribus notare voluerit eas corrigam et impetias redigi faciam. Hec autem verba scripsi ut si alicubi minus completa expositio reperiatur non ascribatur ignorantie. Sed potius novitati et pigritie scriptoris. Et est perfectum hoc opus currentibus annis MCCLXXXIII decima die Septembris."

[68] Thorndike and Kibre, *Catalogue of incipits*, col. 507; A. C. Klebs, *Incunabula scientifica et medica*, Osiris, Bruges, 1938; vol. 4, no. 546.1. The commentary by

the *Aphorisms*, accompanied by Galen's commentary and a translator's preface by Constantinus, reappeared in the editions of the *Articella* printed in [1476], 1483, 1487, 1491, and 1493;[69] as well as in other editions of Jacopo da Forlì's commentary.[70]

The *Aphorisms* were also translated from the Greek in the fourteenth century by Nicholas of Reggio.[71] In the fifteenth century humanist scholars too turned their attention to texts of the *Aphorisms*. Greek texts of the work were in the libraries of Cardinal Bessarion, Pico della Mirandola, and others.[72] Yet earlier in the century when Poggio was commissioned by Guarino to obtain the *Aphorisms* as well as the *Problemata* attributed to Aristotle, he had to report back that he did not know who had

Jacopo da Forlì, also based on the versio antiqua, here accompanies the text, while later editions of the commentary, especially those of 1492 and 1495, were printed without the text. The edition of 1490, however, included both the text and the commentary. Jacopo's commentary follows the arrangement and division into seven particulae, but he commented only on five of them: I, II, IV, V, VI. The third and seventh were provided with a commentary by Marsilio di S. Sophia: Klebs no. 546.3-6. A volume containing these commentaries was in Pico della Mirandola's library: Kibre 1936, p. 103, item 118.

Jacopo da Forlì was a very popular teacher of medicine, of whom Michael Savonarola spoke as "praeceptori meo glorioso." He had taught logic at Bologna in 1357, medicine in 1384, and philosophy in 1402. In the Padua registers he appears between 1399 and 1402, when he returned to Bologna. Recalled to Padua in 1407 by the commune for the annual salary of 600 ducats, he lectured there on the theory of medicine until his death in 1413: G. Tanfani, in *Rivista storia delle scienze mediche e naturali*, 1937, vol. 28, p. 134; also A. Garosi, *loc. cit.*, p. 228; Zonta et Brotto, *Acta grad. acad.*, 1922, no. 307.

Jacopo also commented on the *Liber tegni* or *Ars parva* of Galen, on the *Canon* of Avicenna, and on Aristotle. He was the author of a tract on the intension and remission of forms and other works in logic.

For Marsilio di S. Sophia (d. 1405), esteemed as one of the leading physicians of his time, who taught medicine at Padua, and later in Piacenza, Pavia, and finally at Bologna, attended the duke of Milan, and composed several tracts on medicine, see Neuburger, *op. cit.*, vol. 2, part 1, p. 487; Thorndike, *Hist. of magic and experimental science*, 1934, vol. 4, p. 342; and D. M. Bueno Mesquita, *Giangaleazzo Visconti, duke of Milan (1351-1402)*, Cambridge, 1941, p. 183, citing Landogna, "Maestro Marsiglio di Santa Sofia," *Bollettino della società Pavese di storia patria*, vol. 33, pp. 175-85, which I have not seen. See also Mazzetti, *Rep. prof. Bologna*, 1847, no. 2014.

[69] Klebs, nos. 116.1-6; Thorndike and Kibre, *op. cit.*, cols. 391, 493, 601, 777; Diels 1905, pp. 105-6.

[70] Klebs, nos. 546.2-6.

[71] Lo Parco, *Niccolò da Reggio*, 1913, p. 285, listing MS. Vatican 2369, 14th cent., fols. 3-53, "Incipit liber Afforismorum Ypocratis secundum translationem Nicolai de Regio . . ." But see above note 66, where according to the Vienna MS. Nicholas translated only the parts that had not been translated by Burgundio of Pisa.

[72] There were three codices containing texts or commentaries of the Aphorisms in the Greek collection of Cardinal Bessarion in 1468: H. Omont, *Revue des bibliothèques*, 1894, vol. 4, pp. 156-57, items 182, 209, 211; P. Kibre, *The library of Pico della Mirandola*, 1936, item 433; and see above for the Vatican library.

these texts.[73] New translations directly from the Greek were made in the fifteenth century by Theodorus Gaza, Nicolaus Leonicenus, Lorenzo Laurenziano, and Theodoricus Ulsenius. But these did not displace the earlier translation by Constantinus Africanus which continued to be printed alongside the later renditions.[74] Thus the *traductio vetus* or *antiqua* of Constantinus appeared with the *traductio nova* by Theodorus Gaza in an edition at Venice in 1493,[75] and again together with commentaries of Galen, Jacopo da Forlì, and Marsilio Ficino, also at Venice, in 1508.[76] It was further printed with the translation by Nicolaus Leonicenus,[77] at Ferrara, 1509; also together with the commentaries of Galen, and of Nicolaus Falcutius, and the translations of Theodorus Gaza and Nicolaus Leonicenus at Bologna, 1522; and with commentaries by Galen, and Taddeo Alderotti, at Lyons, 1532.[78] The translation by the Florentine humanist, Lorenzo Laurenziano (d. 1515), was printed together with the commentary of Galen in 1494, under the title *Sententiae*. A copy of this edition was in Pico della Mirandola's library.[79] The Latin edition by Theodoricus Ulsenius was printed at [Nürnberg, 1496],[80] and sixteenth century editions of both the old and new translations separately and in collections of Hippocratic writings continued to pour from the presses.[81]

[73] Poggio, Ep. 84, *Spicilegium romanum*, ed. Mai, 1844, vol. 10, pp. 357-60, cited by Sabbadini, *Le scoperte dei codici*, 1905, p. 45, note 13.

[74] According to Legrand, *Bibliographie hellénique*, vol. 3, this practice of printing old and new translations together was used not only in the case of Hippocrates (p. 68), but also in that of Aristotle (p. 70), and the *Problemata* (p. 134).

[75] Aphorismorum sectiones vii, interpr. Constantino monacho cum . . . Galeni comm. eorundem interpretatio nova Theodori Gaza; Thorndike and Kibre, *Catalogue of incipits*, col. 777. Various editions are listed by Littré, *Oeuvres complètes d'Hippocrate*, Paris, 1844, vol. 4, pp. 446 ff; also by Kühn, *Medic. graec. opera*, Leipzig, 1825, vol. 21, p. lxx; and lxix for other editions. Theodorus Gaza's translation was further printed in the *Articella* in the edition of Lyons, 1525, fol. 30r.

[76] Littré, *op. cit.*, vol. 4, p. 446.

[77] On Leonicenus see Thorndike, *Hist. of magic and experimental science*, 1934, vol. 4, pp. 593-94, note 1, and the references there cited. The incipit of the translation as given in the Venice, 1524, (fols. 1-92), edition is noted in Thorndike and Kibre, *Catalogue of incipits*, col. 284.

[78] These editions are listed by Littré, *op. cit.*, vol. 4, pp. 446-47. A copy of the 1522 edition is at the New York Academy of Medicine. The sub-title reads: Aphorismi Hippocratis, secundum translationem veterem et Theodori Gaze, et Nicolai Leoniceni, cum commentariis Nicoli (Falcutii) Florentini ex omnibus eius voluminibus (sermonibus medicinalibus) excerptis.

[79] Klebs no. 520.1; P. Kibre, 1936, item 1017.

[80] Kühn, *op. cit.*, vol. 21, p. lxix; cf. Klebs 520.2.

[81] See for example: Aphoris. sect. sept., tr. Leonh. Fuchs, Paris, 1545; Aphoris. [tr.

As already noted the medieval versions of the *Aphorisms* were usually arranged according to the seven-fold division made by Galen, whose commentary generally accompanied them. In this arrangement, the first particula of twenty-five to twenty-six aphorisms related to purging either spontaneous or artificial, and the diet for invalids; the second of fifty-four aphorisms pertained to the relation between sleep and disease, and included a number of other facts on fevers, diet, and the like; the third of thirty-one to thirty-three aphorisms dealt chiefly with the relation of seasons, winds, and atmospheric conditions, to the occurrence and types of diseases to which man is subject according to the progressive stages in his life; the fourth of eighty-three aphorisms, dealt with emetics and purgatives, diagnostics especially in fevers, and urines; the fifth, somewhat similar to the preceding, with seventy-two aphorisms, described the effects of heat and cold especially in surgical diseases; and included information on spasms, tetanus, epilepsy, affections of the chest with various methods of caring for them, in addition to female disorders. The sixth particula included a heterogeneous collection of sixty aphorisms on prognostics, characterizations of diseases and therapeutics; and the seventh particula of eighty-seven to eighty-eight aphorisms related to accessory symptoms, complications and sequences of diseases, with many repetitions from the first and sixth divisions.[83]

The wide currency of this work during the whole of the middle ages so well attested by the large number of extant Latin manuscripts, as noted earlier, is further indicated by the translations into the vernaculars before 1500,[84] and the frequent commentaries.[85] Among the earliest of these was the one attributed to Oribasius who is identified with the author who compiled at the request of emperor Julian, a kind of encyclopedia (a good part of which has disappeared), made up of extracts from the most renowned physicians of antiquity.[86] Latin commentators of a later period

Nicolao Leoniceno] cum expos. Galeni, Lugd., 1555; Opera lat., tr. Joh. Cornarius, Basel, 1554, 1558; etc.

[83] Littré, *op. cit.*, vol. 4, pp. 396 ff.

[84] S. Ayscough, *Catalogue of the manuscripts preserved in the British Museum*, London, 1782, p. 558: Sloane 2117; 2809; 2811, all in English; and for a French translation begun on Sept. 9, 1362, by Martin de S. Gille, see Delisle, *Cabinet des manuscrits*, Paris, 1881, vol. 3, p. 313. The translation was copied at Rouen in 1429-1430, by Jean Tourtier for the duke of Bedford: *ibid.*, vol. 3, p. 314; and see G. Manheimer, in *Rom. Forschung*, 1891, vol. 6, pp. 592-95, "Da rühmt sich Hippokrates und seiner Amphorismes."

[85] Thorndike and Kibre, *Catalogue of incipits*, col. 777; also 64, 132, 147, 220, 315, 385, 434, 483, 567-68 729; also "More incipits," *Speculum*, 1942, vol. 17, p. 349, col. 2; 359, col. 1-2; Kühn, *op. cit.*, 1825, vol. 21, pp. lxxx-lxxxii; and the following notes.

[86] Thorndike and Kibre, *Catalogue of incipits*, col. 599; Diels, 1906, p. 73; Bibliomania

included the twelfth century Maurus Salernitanus, a master Benedict,[86] and such thirteenth century physicians as Taddeo Alderotti, already noted, Richard Anglicus (d. 1252),[87] Petrus Hispanus (d. 1277),[88] and Arnald of Villanova (d. 1311).[89] No less numerous, judging from the extant manuscripts were the commentaries by fourteenth and fifteenth century authors, namely Dino del Garbo[90] (d. 1327), Gentile da Foligno (d. 1348),[91] Bartholomaeus [of Bruges, d. 1356],[92] Albertus de Zancheriis (c. 1371),[93] Marsilius de Sancta Sophia and Jacopo da Forlì, already noted; also Nicolaus Falcutius of Florence (d. 1411 or 1412),[94] Giovanni da Sermoneta (d. after 1438),[95] Hugh of Siena (d. 1448), who dedicated his commentary to Nicolaus d'Este of Ferrara;[96] and Marsilio Ficino (d. 1499).[97]

of Richard of Furnival, in Delisle, *Cabinet des manuscrits*, vol. 2, 535, item 160. For two 10th cent. Latin MSS. of the commentary at Paris, see Littré, *op. cit.*, vol. 4, p. 443; and on Oribasius see Temkin, in *Kyklos*, 1932, vol. 4, pp. 32 ff. M. R. James, lists a Tractatus Uribasii super amphorismis Ypocratis, at St. Augustine Abbey library in Canterbury: *The ancient libraries of Canterbury and Dover*, 1903, p. 337, no. 1206. See also H. E. Sigerist in *Bulletin of the history of medicine*, 1941, vol. 10, pp. 28-30; 1943, vol. 14, pp. 90-91. The comm. opens: "Quoniam (Quia) necesse est semper . . ."

[86] Thorndike and Kibre, *Catalogue of incipits*, col. 149, 385. The commentary by Maurus Salernitanus is published in De Renzi, *Collectio Salernitana*, Naples, 1856, vol. 4, pp. 513-57. See also P. O. Kristeller, in *Bulletin of the history of medicine*, 1945, vol. 17, p. 157.

[87] *Ibid.*, col. 132.

[88] *Ibid.*, col. 147; Thorndike, *Hist. of magic and experimental science*, 1923, vol. 2, p. 501.

[89] Thorndike and Kibre, *op. cit.*, col. 139, 315, 483; *Histoire littéraire de France*, vol. 28, pp. 75-76; Glorieux, *Répertoire des maîtres en théologie de Paris au XIII^e siècle*, Paris, 1933, vol. 1, p. 420.

[90] Thorndike and Kibre, "More incipits," *Speculum*, 1942, vol. 17, p. 364.

[91] Thorndike and Kibre, *Catalogue of incipits*, col. 369; and see Thorndike, *op. cit.*, 1934, vol. 3, chapt. XVI, for an account of Gentile da Foligno.

[92] Thorndike and Kibre, *op. cit.*, col. 64, 777; and for Bartholomaeus of Bruges, see Auguste Pelzer, "Barthélemy de Bruges, philosophe et médecin du XIV^e siècle," *Revue neo-scolastique de philos.*, 1934, vol. 36, pp. 459-74; *Histoire littéraire*, vol. 37, pp. 238 ff.

[93] Thorndike and Kibre, *op. cit.*, col. 737, citing the edition in *Archiv für Gesch. d. Medic.*, 1921, vol. 13, pp. 159-65.

[94] See note 78 above.

[95] Giovanni da Sermoneta was a student at Padua in 1411 and 1412; lecturer on medicine at the university of Siena in 1429, and at Bologna in 1430. He was again at Siena from 1430, and continued to conduct the ordinary lectures in medicine there through 1438. His son Alessandro Sermoneta (d. 1486), was also a physician and professor at Siena and Pisa: Zonta et Brotto, *Acta grad. acad.*, 1922, no. 143, 149, 204, 249; A. Garosi, in *Rivista di stor. delle sc. medic.*, 1937, vol. 28, pp. 226, 231-32; Klebs 915.1-2. Sermoneta also commented on the *Liber tegni* of Galen. His commentaries which take the form of scholastic questions on the subjects treated, appear to have been the only works by him printed in the incunabula period. Cf. Thorndike, *op. cit.*, 1934, vol. 4, p. 576.

Second in importance only to the *Aphorisms* as a textbook and practical guide in medicine during the medieval period was the book of *Prognostics* (liber pronosticorum),[98] relating to prescience, rather than to prediction, that is on the present, past, and future course of acute febrile diseases. This work is to be differentiated from the tracts dealing with prognostications from death signs frequently referred to in the manuscripts as *Prognostica*. It is also to be distinguished from the works on astrological medicine or prognostications according to the moon. Generally accompanying the *Aphorisms* in the *Articella* and other medical collections, the *Liber pronosticorum* sought to provide the physician with information regarding the common symptoms and progress of acute febrile diseases, so that he might have a foreknowledge of the course of such diseases and might apply with greater competency the necessary therapeutic measures in a given case. For if the physician is able to discover and "declare unaided by the side of his patients the present, the past and the future, and fill in the gaps in the account given by the sick," he can the more readily win the patient's confidence.[99] The *Liber pronosticorum* thus set forth the Hippocratic belief in a general pathology particularly of acute diseases, that is those in which there is high fever. The same symptoms in all cases were held to presage certain definite results which were ascertainable beforehand.[100]

First translated from Greek into Latin between the fifth and the sixth centuries, probably in southern Italy where the prevalence of malerial affections similar to those described in the tract might make it a valuable

[98] Thorndike and Kibre, "More incipits," *Speculum*, 1942, vol. 17, p. 359; printed at Ferrara, 1493, 1498; Klebs nos. 1002.1-2. The edition of Venice, 18 July, 1517, 160 leaves, is a close reprint of the 1498 edition. The commentary is only on the first six particulae and ends with part 6, cap. lx, "Quibuscumque a sciatica . . ." Cf. Thorndike, *op. cit.*, 1934, vol. 4, p. 342, on Hugh of Siena.

[97] See note 76 above.

[98] R. Fuchs, in Puschmann, *Handbuch*, 1902, vol. 1, pp. 227 ff., item 46; W. Puhlmann, "Die lateinische medizinische Literatur des frühen Mittelalters," *Kyklos*, 1930, vol. 3, pp. 396-97; Littré, *op. cit.*, vol. 2, pp. 110-91; manuscripts and editions listed pp. 103-109; Thorndike and Kibre, *Catalogue of incipits*, col. 226, 306, 399, 468, 772; Diels, 1905, pp. 5-7, 107-108; Kühn, vol. 21, pp. xlvii, 88 ff.; *Philologus*, 1882, vol. 42, pp. 119, 124 ff. For MSS. not included by Diels, see E. J. L. Scott, *Index to the Sloane MSS.*, London, 1904, nos. 1124, 13th cent., 1610, 14th cent.; and for citations in 12th cent. libraries, Becker, *op. cit.*, pp. 233, 244; M. R. James, *The ancient libraries of Canterbury and Dover*, 1903, notes copies from the 13th to 15th centuries: pp. 56, 81, 122, 134, 334-37, 339, 345, 481, 483.

[99] Hippocrates with an English translation by Jones, Loeb classical library, vol. 2, (pp. 7-55), pp. x-xiii, 7.

[100] *Ibid.*, vol. 2, pp. ix-x, 55.

practical guide,[101] the *Liber pronosticorum* like the *Aphorisms*, owed its general dissemination to the Latin translations made from the Arabic by Constantinus Africanus in the late eleventh century,[102] and apparently by Gerard of Cremona in the twelfth century,[103] for it was these versions that circulated most widely in the manuscripts, and that were printed in the *Articella* before 1500.[104] In the incunabula editions the work was divided into three books and was accompanied by Galen's commentary.[105] Unlike

[101] H. E. Sigerist, in *Archiv für Gesch. d. Medic.*, 1930, vol. 23, pp. 87 ff., with the text opening: "Medicum videtur mihi optimum esse . . ." H. Kühlewein, "Die handschriftliche Grundlage des Hipp. Prognostikon und eine lateinische Übersetzung desselben," *Hermes*, 1890, vol. 25, p. 120, published the fifth or sixth century translation (pp. 123-37) as found in Milan Ambros. G 108 inf. Fol., 9th-10th cent., fols. 1-3v, inc.: "Medicum existimo perfectum esse . . .Diels 1905, p. 6 also lists a 9th cent. MS. at Monte Cassino.

[102] Thorndike and Kibre, *Catalogue of incipits*, col. 468: inc. "Omnis qui medicine artis studio seu gloriam . . ."

[103] Although the list of translations of Hippocrates' works made by Gerard of Cremona (the list is given by Sudhoff in *Archiv für Gesch. d. Medic.*, 1915, vol. 8, see especially item [52], p. 78), does include a "Prognosticon," in addition to the "Liber prognosticus sive capsula eburnea," his name does not appear to be attached to the translations in the manuscripts. A further study of the manuscripts is necessary before the different translations can be identified and classified. According to Steinschneider, "Die Europäischen Übersetzungen aus dem Arabischen," in *Sitzungsberichte der K. Akad. der Wissensch. in Wien*, Phil. hist. Kl., 1905, vol. 149, pp. 11, 18, the translation included in the editions is by Gerard of Cremona, not Constantinus.

It is not entirely clear that the "Videtur mihi quod ex melioribus rebus . . ." which opens several MS. texts (cf. Thorndike and Kibre, *op. cit.*, col. 772), is a different translation (perhaps by Gerard of Cremona), since in the text published in the *Articella* of Venice, 1487, fols. 47r-75r, the first sentence beginning: "Omnis qui medicine artis . . ." is followed by the next paragraph beginning, "Videtur mihi ut sit ex melioribus rebus ut medicus utatur previsione . . ." Cf. Cambridge, Gonville and Caius, 59(153), 14th cent., fols. 56-152, where in the M. R. James, Catalogue, "Omnis qui . . ." is given as the incipit of the text, and the gloss incipit as "Videtur michi quod ex . . ."; also the same in Cambridge, Pembroke 228, 13th-14th cent., fols. 172-213v, Prognostica Hippocratis cum commento, text, inc. "Omnis qui medicine . . ."; comm. inc. "Videtur michi quod de melioribus . . ."; also in Cambridge, Peterhouse 14, 14th cent., fols. 41-(68); in the same collection, 251, 13th cent., fols. 103v-104r; and Cambridge, Trinity 1083, 12th-13th cent., fols. 21v-27r, inc. "Omnis quidem medicine artis . . ."

The Liber pronosticorum is contained in Vatican 2369, 14th cent., fols. 53-(55), together with other works translated by Nicholas of Reggio: Lo Parco, *op. cit.*, 1913, p. 285. See also *ibid.*, pp. 289-90, for a MS. at Naples, Bibl. naz. cod. VIII. D. 25, which contains the Latin translation of the *Prognostics*, with the date A. D. MCCCLXXX die p. mensis augusti etc.

[104] Klebs 116.1-6. This translation was further reproduced in the *Articella* printed at Lyons, 1525, fols., 17r-20v. For a vernacular translation of the 14th or 15th century, see "Pronostichi d'Ippocrate volgarizzati nel buon secolo della lingua, Bologna, 1866 (*Scelta di curiosità letterari* no. 67), p. 13 ff. Inc. "Qualunque desidera il conseguire, mediate lo studio della medicina . . ."

[105] See for example, *Articella*, of Venice, 1487, fols. 47r-75r (Klebs 116.3); and cf. Bibliomania of Richard of Furnival in Delisle, *Cabinet*, vol. 2, p. 533, item 135.

the Constantinus translation of the *Aphorisms*, the translations from the Arabic of the *Prognostics* were largely superseded in the sixteenth century by the new fifteenth century translation directly from the Greek made by the humanist Lorenzo Laurenziano, and the more recent sixteenth century translators.[106] Commentaries on the work were numerous, and those before 1500 included in part the same commentators as those on the *Aphorisms*: Taddeo Alderotti,[107] Petrus Hispanus,[108] and Bartholomaeus of Bruges,[109] as well as John of St. Amand,[110] Johannes de Corpo,[111] and Johannes Dorp of Leyden who was lecturing on the subject of the *Prognostics* at the university of Paris on September 11, 1403.[112]

Closely bound up with the Hippocratic doctrine of a "general" pathology was the tract variously entitled, *Regimen acutorum morborum*, *De dieta acutorum*, or *De victus ratione in morbis acutis*. It was commonly found with a commentary by Galen in numerous Latin manuscripts, and in incunabula editions of the *Articella*, in the translation from the Arabic by Constantinus Africanus.[113] A Latin translation of Galen's commentary on the tract is also attributed to Gerard of Cremona.[114] Possibly a third translation was made in the fourteenth or early fifteenth century by Nicholas de Reggio of Calabria,[115] or Marsilius de Sancta Sophia,[116] and

[106] Hippocratis prognosticon cum commento Claud. Galeni, interpr. Laur. Laurentiano Florentino, Florence, 1508; Paris, 1543, etc.: Littré, vol. 2, p. 103; Kühn, vol. 21, p. xlix. Littré, vol. 2, pp. 103-104 lists other translations printed in the sixteenth century. I have seen the edition of Paris, 1530 at the New York Academy of Medicine.

[107] Littré, vol. 2, p. 104; Thorndike and Kibre, "More incipits," *Speculum*, 1942, vol. 17, p. 347, col. 2.

[108] *Loc. cit.*, p. 355, col. 2.

[109] Thorndike and Kibre, *Catalogue of incipits*, col. 266.

[110] *Ibid.*, col. 326.

[111] *Ibid.*, col. 688.

[112] Wiesbaden 56, 15th cent., fols. 257-330.

[113] R. Fuchs, in Puschmann, *Handbuch*, 1902, vol. 1, pp. 226-27 item 45; Littré, vol. 2, pp. 224-377; appendix, pp. 378-529; with MSS. listed, pp. 218-19; Diels, 1905, pp. 8-9, 102-103; Thorndike and Kibre, *Catalogue of incipits*, col. 62, 312, 434, 440, 561, 565, 773; Kühn, vol. 21, p. xcix ff. For MSS. in English libraries between the 13th and 15th centuries see M. R. James, *The ancient libraries of Canterbury and Dover*, 1903, pp. 81, 122, 134, 335-36, 339, 345. For the incunabula editions see Klebs, nos. 116.1-6. The IVth book on diets which is printed in the *Articella*, (cf. ed. 1487, fol. 107r), is said to be discounted as the work of Hippocrates by some physicians. Cf. *Bibliomania* of Richard of Furnival, item 133, "Liber regiminis acutorum cum ejus quarta particula que raro habetur." (Delisle, *Cabinet*, vol. 2, p. 533; see also item 135).

[114] See Tours 790, 14th cent., fols. 158-96; 792, 14th cent., fols. 1-47. Such a work is included in the list of translations made by Gerard of Cremona: Sudhoff, in *Archiv für Gesch. d. Medis.*, 1915, vol. 8, p. 78, item [45]; Steinschneider, *loc. cit.*, 1905, vol. 149, pp. 18-19; and see also *loc. cit.*, p. 11.

[115] The work appears in two fourteenth century manuscript collections which contain

there were several sixteenth century translations.[117] There were commentaries by Taddeo Alderotti,[118], Bernard Gordon,[119] and others.[120] Vincent of Beauvais cited the work in the *Speculum naturale* and in the possibly spurious *Speculum doctrinale*.[121]

Usually divided into four books, the "Regimen of acute diseases," opens with a criticism of the authors of the Cnidian Sentences and of the Cnidian physicians who from their experiences with patients in individual instances classify diseases into minute subdivisions. The author here would direct the physician's attention rather to the whole of the medical art. Acute diseases are designated as those to which the ancients gave the names pleurisy, pneumonia, phrenitis, and ardent fever, that is those diseases where the fever is on the whole continuous. The mildness of the Hippocratic regime or course of treatment is demonstrated in this tract. There is little use of drugs and no sudden departure from the patient's regimen while he was still in good health. Sudden changes are considered harmful. Although baths as a part of the regimen are thought to be generally beneficial, their benefits are said to depend on whether the patient is very fond of the bath when in good health or is in the habit of bathing. The drinks recommended include hydromel, oxymel, and wine, with the great standby, barley water, or gruel or ptisan, the only nourishment recommended for the period well after the crisis. Purges, simple herbals, and venesection were also resorted to in the regime.[122]

Differing from the aforementioned Hippocratic *Liber prognosticorum*, though probably suggested and derived from that work, was the group of texts frequently entitled, *Prognostica*, relating to the "signs of life and

translations of Hippocratic writings by Nicholas of Reggio: Vienna 2328 [Rec. 948], Fol., 14th cent., fols. 34-97v (Hermann, vol. 5, pp. 15-16); and Vatican 2369, fols. 55-(59), following the *Aphorisms*, and *Prognostics*, with Nicholas of Reggio's translation (Lo Parco, 1913, p. 285).

[118] Littré, vol. 2, p. 219, states that several manuscripts attribute the translation included in the *Articella*, to Marsilius de Sancta Sophia. Kühn, vol. 21, p. ci, however, suggests that Marsilius wrote a commentary on the *Regimen acutarum*.

[117] Littré, vol. 2, 219-22; Kühn, vol. 21, pp. c-cii; where are listed editions of the 16th century on.

[118] Thorndike and Kibre, "More incipits," *Speculum*, 1942, vol. 17, p. 357, col. 2. Cf. Kühn, vol. 21, p. c, where this is said to be a translation in paraphrase by Taddeo.

[119] M. R. James, *op. cit.*, 1903, p. 338, no. 1215; Munich (CLM) 340, 1304 A. D., 4°, fol. 252, Bernard de Gordonio, Regim. acutarum aegrit.

[120] Thorndike and Kibre, *Catalogue of incipits*, col. 236, 535, 563.

[121] *Speculum naturale*, vol. 1, lib. VI, cap. lxxvi; *Speculum doctrinale*, lib. XIV, cap. lxxxvii.

[122] Hippocrates with an English translation by Jones, Loeb classical library, 1923, vol. 2, pp. 59-60, 63 ff.; 67, 85 ff.

death," or to the "facies Hippocratica," and similar ominous aspects of the patient foretelling death.[123] The same subject is also treated of in the so-called *Secreta* and *Capsula eburnea* which bear close resemblences to each other and which have been shown by Sudhoff to have been derived from a common source. Such tracts were probably intended to provide a practical guide not only for the physician, but also for the layman, as their frequent appearance in manuscript collections demonstrate and their translation into the vernaculars suggest.[124] A comparison of the various recensions of the texts,[125] which show considerable divergences led Dr. Sudhoff to the conclusion that they are all derived from a common source composed originally in Greek. The work was translated into Latin between the fifth and the sixth centuries, and this translation is extant in ninth and tenth century manuscripts.[126] In the twelfth century a Latin translation from the Arabic was made by Gerard of Cremona.[127] From

[123] W. Puhlmann, in *Kyklos*, 1930, vol. 3, pp. 407-408; H. Kühlewein, "Beiträge, zur Geschichte und Beurtheilung der Hippokratischen Schriften. 1. Zu Hippocrates' Prognosticon," *Philologus*, 1884, vol. 42, pp. 121-27. On Hippocratic facies, see C. Singer, *Greek biology and Greek medicine*, Oxford, 1922, p. 93; and cf. Littré vol. 2, pp. 113 ff.

[124] Sudhoff, in *Archiv für Gesch. d. Mediz.*, 1916, vol. 9, pp. 79 ff.; 200 ff., for a German version; Diels 1905, pp. 45, 55, 130; 1906, p. 27; Thorndike and Kibre, *Catalogue of incipits*, col. 213, 423, 640, 669; also "More incipits," *Speculum*, 1942, vol. 17, p. 348, col. 2; and see Scott, *Index to Sloane MSS.*, De signis mortis, 14th cent., 3550, fols. 5-9; 282, fol. 124; 284, fol. 72v; also S. Ayscough, *Catalogue*, 1782, p. 558, Sloane 345, 6; 405, 13; 715, 10; also Cambridge, Univ. library (*Catalogue*, vol. 1, p. 301), 346 (Dd. VI. 29), 15th cent., fols. 27r-29v, (*Catalogue*, vol. 1, p. 434), 602 (Dd. X. 44), 15th cent., fols. 113-116v; and Cambridge, Jesus College 43 (Q. D. 1), 15th cent., fol. 126v. Cf. M. R. James, *The ancient libraries of Canterbury and Dover*, 1903, p. 61: Signa Ypocratis; p. 331, 346: Signa Ypocratis in inferno (infirmo); pp. 333, 338, 344, Secreta Ypocratis; p. 484, Secreta Ypocratis de morte.

For Sloane MSS. in English see Scott, *Index to Sloane MSS.*: 345, fol. 20; 405, fols. 123-25; 1506; 2401, fols. 88v-96; 2584, fols. 9-12v; 3531, fol. 33v; also in British Museum Addit. MSS. 34, 111, 15th cent., fol. 231; and in the Hunterian Museum library, Glasgow univ., 513.4, late 14th cent., Signa mortis, in English. For the French text see S. Ayscough, *Catalogue of Sloane MSS.*, 1782, p. 558; Sloane 1611, fols. 143-47; also P. Meyer in *Romania*, 1903, vol. 32, pp. 98-99, "Des pronostics de la mort," a fourteenth century translation, in a Cambridge MS. Another vernacular translation is: "Epistola di pronostichi d'ypocrate trovata sotto al suo capo nel sepolcro, ove sono molti secreti dell' arte della medicina" (14th or 15th cent. text), published in *Scelta di curiosità lett.*, 1866, vol. 67, p. 53 ff.

[125] Sudhoff, *loc. cit.*, 1916, vol. 9, pp. 79 ff., 200-208; Diels 1905, p. 45; and cf. H. E. Sigerist in *Archiv für Gesch. d. Mediz.*, 1921, vol. 13, pp. 157-59. For the different versions from various MSS. see also V. Rose, *Die Handschriften-Verzeichnisse d. k. Bibl. zu Berlin* (Codices Philippici), 1893, vol. 1, pp. 373-74.

[126] Rose, *op. cit.*, pp. 373-74; H. Kühlewein, in *Philologus*, 1884, vol. 42, pp. 119 ff.; Puhlmann, in *Kyklos*, 1930, vol. 3, p. 407.

[127] Cf. Cambridge, Gonville and Caius 117(186), 13th-14th cent., fols. 220-21, De

then on manuscripts on the subject under varying titles occur more and more frequently. The title most commonly encountered is that of *Capsula eburnea*. In this version the introduction states that the tract was found in a small ivory box (capsa eburnea) in the tomb of Hippocrates.[128] Such a text dating from the fifth or sixth century is extant in a ninth or tenth century manuscript at Monte Cassino (no. 69). It is there entitled "Epistola prognostica . . . de signis egritudinis." The introduction states that Hippocrates had ordered his servants to place this *Epistola* in a capsule at his head. When later Caesar came upon the tomb he ordered it to be opened secretly. Thus was discovered resting under Hippocrates' head the receptacle containing all the secrets of the art. Caesar carried off the *Epistola* and ordered that it be given to no one but his own physician, Pandosius. In this receptacle there is said to be found everything by which the physician could recognize the signs of death or life.[129]

Other recensions of the work are designated in the manuscripts, *Epistola pronostica*; *liber prescientia*, and *Liber veritatis*.[130] Variant versions of the text also appeared in the manuscripts under the titles, *Pronostica* and *Secreta*,[131] and were printed side by side as different tracts by the incuna-

Apostematibus ex decretis Ypocratis. Pervenit ad nos quia cum Ypocrates morte appropinquaret . . . / . . . Expletus est liber Ipocratis intitulatus de veritate ab eodem a magistro Cremonensi de Arabico in latinum translatus. Deo gracias. Cf. Sudhoff, *Archiv für Gesch. d. Medic.*, vol. 8, p. 78, item [53]; also p. 81; *loc. cit.* vol. 9, pp. 82 ff.; and see Diels, 1905, p. 55, De pustulis et apostemata; Steinschneider, *loc. cit.*, 1905, vol. 149, pp. 18-19.

[128] Rose, *op. cit.*, p. 373; Diels 1905, pp. 38, 45, 55; Sudhoff, *loc. cit.*, vol. 9, pp. 84 ff.; 90-104; Thorndike and Kibre, *Catalogue of incipits*, col. 128, 193, 213, 389, 484, 545; Klebs no. 644.1-2; 826.1-3; also in *Articella*, Lyons, 1525, fols. 74r-75v.

[129] Rose, *op. cit.*, 1893, vol. 1, p. 373; H. Kühlewein, in *Philologus*, 1884, vol. 42, pp. 121 ff. The incipit is "Peritissimum omnium rerum esse et domestica sapientia in omnibus corporibus, quae iusserat . . ." See also Cambridge, Peterhouse 247, 13th cent., fol. 8v, "Cum transiret Cesar par viam vidit monumentum ubi Ypocrates erat positus . . . ;" and the vernacular versions indicated in note 124 above.

[130] Thorndike and Kibre, *Catalogue of incipits*, col. 389, 484; Sudhoff, in *Archiv für Gesch. d. Medic.*, vol. 9, pp. 79 ff.; S. Ayscough, *Catalogue*, 1782, p. 557, Sloane 2320, 16, Liber preciocissimus Ypocratis. Hic est liber de veritate Ypocratis qui intitulatur liber prestancie Ypocratis, qui inventus est in sepulcro eius in Pyxide eburnea, et sunt xxv propositiones in eo. See also De Renzi, *Collectio Salernitana*, 1859, vol. 5, p. 125 (Bibl. reg. Paris 6964, 1305 A. D., item 16), Incipit liber Praescientiae Ypocratis qui inventus est in Sepulcro eius in pixide eburnea et sunt xxiiii propositiones, fols. 141-142. At the end of the MS. is the note: "Hunc librum dedit magister Iohannes Cailleau mihi duci Aurelianensi. . . ." See note 43 above.

[131] Thorndike and Kibre, *op. cit.*, col. 271, 669; "More incipits," *Speculum*, 1942, vol. 17, pp. 350, col. 1; 363, col 1; Diels 1905, p. 53; S. Ayscough, *op. cit.*, p. 558: Sloane 3124; 3531; Cambridge, Trinity 1125, 14th cent., fol. 138v; Sudhoff, in *Archiv für Gesch. d. Medic.*, vol. 9, pp. 104-106. See also H. E. Sigerist, "Early medical texts in manuscripts of Montpellier," *Bulletin of the history of medicine*, 1941, vol. 10, pp. 35-36.

bula presses together with the works of Rasis and Maimonides;[182] also in a collection of Averroes' *Opuscula*,[183] and with Magninus Mediolanensis.[184] In the sixteenth century it was included in the editions of the *Articella* and elsewhere.[185] Occasionally the work was ascribed to other famous physicians such as Galen, Soranus, and Democritus.[186]

Another Hippocratic work well known in the middle ages was that "On airs, waters, places,"[187] in which are considered the relationship of the seasons and meteorological changes to diseases, and the influences of geography and climate on man's physical and moral development. There is also a comparison between the inhabitants of Europe and of Asia. This tract appears to have been known in the west in Latin translation as early as the fifth century,[188] and was well known in antiquity. Erotian cited it

[182] In the 1481 edition of Rasis, *Liber Almansoris*, it appears under the title *Liber capsa eburnea* (inc. introd.) Pervenit ad nos . . . (text) Quando in facie infirmi fuerit apostemata . . ." (cf. Rose, *op. cit.*, p. 373); then as *Secreta Ypocratis gloriossimi medici* (inc. text) Dixit Ypocras. Cum in somnis apparent (apparet) ampulla nigra (apostemata nigrum) . . . ; and in the 1497 and 1500 editions with the title *Liber pronosticorum Hypocratis dictus capsula eburnea*, with the opening words as above: Klebs 826.1-3; while the second tract is entitled *Gloriossimi medici Ypocratis pronosticorum liber qui dicitur liber secretorum.* (text) Dixit Ypocras. Cum in somnis . . ."

The 1489 edition of Maimonides, *Aphorismi* (Klebs 644.1), also contains the work with the title, *De pronosticis Ypocratis qui fuerint inventa in suo sepulchro in capsa eburnea*; and the 1500 edition with the same title (Klebs 644.2). The *Secreta* version similar to that in Rasis edition of 1497, appears only in the 1500 edition of Maimonides.

[183] In an undated incunabulum under the title *Secreta Ypocratis*: Sudhoff, in *Archiv für Gesch. d. Mediz.*, vol. 9, pp. 80, 87, 104; Klebs no. 521.1.

[184] Under the title *Secreta Hippocratis*, with Magninus, *Regimen sanitatis*, [Lyon ? ca. 1500-1505]: Klebs no. 640.5; New York Academy of Medicine, fols. 105r-v.

[185] See for example the edition of the *Articella* for 1525, fols. 69v-70r; 74r-75v.

[186] Sudhoff, in *Archiv für Gesch. d. Mediz.*, vol. 9, pp. 81-82, 86, 202 ff.; Vatican Urb. 246(457), 14th cent., fol. 190, Democritus Prognostica, Inc. "Si capitis fuerit dolor . . ."; V. Rose, *Die Handschriften-Verzeich. der k. Bibl. zu Berlin* (Codices Philippici), 1893, vol. 1, p. 374; Sigerist in *Archiv für Gesch. d. Mediz.* vol. 13, pp. 157-59; W. Puhlmann, in *Kyklos*, 1930, vol. 3, p. 407; Diels 1905, p. 115, addenda, 130; 1906, p. 27; Thorndike and Kibre, *Catalogue of incipits*, col. 423; "More incipits," *Speculum*, 1942, vol. 17, p. 348, col. 2.

[187] R. Fuchs, in *Puschmann Handbuch*, 1902, vol. 1, p. 234, item 59; Kühn, vol. 21, pp. cii ff.; 523; Littré, vol. 2, pp. 12-93; with manuscripts and printed editions listed at pp. 9-11. Littré, vol. 1, p. 385, notes the copy at Paris, BN 7027, end of the 10th cent., item 3. See also Diels 1905, p. 4; Thorndike and Kibre, *Catalogue of incipits*, col. 581; H. Diller in *Philologus, Suppl.* 1932, vol. 23, no. 3; Hippocrates, De aere aquis locis. Mit der alten lateinischen Uebersetzung, herausg. von G. Gundermann, Bonn, 1911; Hippocrates with English translation by W. H. S. Jones, Loeb classical library, 1923, vol. 1, pp. 66 ff. The tract was cited by Alcabitius, Boffito, *Giornale storico della lett. ital., Suppl.*, Torino, 1903, vol. 6, p. 45, note 1. See also Diller, "Wanderarzt und Aitiologe," *loc. cit.*, 1934, vol. 26, no. 3.

[188] H. Kühlewein, in *Hermes, Zeitschrift für Class. Philologie*, 1905, vol. 40, pp. 254-74,

and both Rufus of Ephesus and Galen who gave the tract its present title, commented upon it.[139] Translations into Syriac and Arabic are known from about the ninth century, and Galen's commentary on it was translated into Hebrew probably by Hunain ibn Ishak.[140] Although this work was among the earliest of the Hippocratic writings known in the west in Latin translation, it like the works already noted was reintroduced into Europe along with other Greek writings by way of a translation from the Arabic in the second half of the twelfth century in southern Italy perhaps at Salerno or Monte Cassino.[141] And similarly it was this later version that reappeared in numerous manuscripts more frequently than did the earlier recension and that was reproduced along with the collections of Rasis and Maimonides by the incunabula presses.[142] In the sixteenth century although the first Greek edition with a Latin translation by Janus Cornarius, appeared at Paris, in 1512, and at Basel, in 1529, the twelfth century Latin version from the Arabic continued to be printed in editions of the *Articella*.[143]

Relating wholly to the subject of embryology was the work by Hippocrates that circulated under such variant titles as *De natura puerorum*, *De natura embryonis*, and *De natura fetus*.[144] In the *Speculum naturale*,

reproduces the Latin translation (Inc. "Medicinam si quis recte vult querere . . .") found in the Paris MS. (7027) noted above by Littré. See also J. Ilberg, "Zur Ueberlieferungsgeschichte des Hippokrates," *Philologus*, 1894, vol. 52, pp. 422-30. Ilberg notes (pp. 425-26), not only the older Latin translation (ca. 5th cent.) from Paris BN 7027, but also that from Milan, Ambros. G 108 inf., c. 900 A. D., fols. 15v, 20, 21; and further describes a thirteenth century translation in Vatican Pal. 1079, fols. 52v-56v; which he attributes to Bartholomaeus of Messina. Cf. Diller, *loc. cit.*, 1932, vol. 23, no. 3, p. 57.

[139] Diller, *loc. cit.*, 1932, vol. 23, no. 3, pp. 136 ff.; Diels 1905, p. 141.

[140] Diller, *loc. cit.*, 1932, vol. 23, no. 3, pp. 113-15.

[141] Diller, *loc. cit.*, 1932, vol. 23, no. 3, reproduces this translation (pp. 83-104, inc. "Quisquis ad medicine studium accedere . . ."). For the dating of the translation see Diller, *loc. cit.*, pp. 129-30; and see also Haskins, *Studies in the history of medieval science*, 1927, p. 94, where the work is indicated as anonymous. In a 14th cent. MS. at Vienna 2328 [Rec. 948], Fol., 1314 A. D., fols. 97v-99, the work is said to have been translated by Issac of Toledo (Hermann, 1928, vol. 5, pp. 15-16); that is Issac probably translated it from Greek into Arabic; and Marcus of Toledo from Arabic to Latin. Cf. Steinschneider in *Akad. d. Wissensch. Sitz. der Philos.-Hist Kl. Wien*, 1905, vol. 149, p. 54.

[142] Klebs 826.1-3; 644.2.

[143] Cf. *Articella*, Lyons, 1525, fols. 77r-82v. It was printed with the collected works in the translation by Cornarius at Basel, 1558, p. 126.

[144] R. Fuchs, *Puschmann Handbuch*, 1902, vol. 1, p. 217, item 17; Diels 1905, p. 29; and see also in Littré, vol. 7, pp. 470-543. In the 1487 ed. of the *Articella*, fol. 152v, all three titles are brought together: "Incipit liber Hyppocratis de natura puerorum vel de natura fetus aut de natura embryonis idem enim sunt." Cf. M. R. James, *The ancient*

Vincent of Beauvais treats of this subject, ' de embrionis formatione,' as derived from the *Epistola de anathomia*.[145] According to the closing paragraph of the tract as it appears in both manuscript and early printed editions, it was translated directly from the Greek into Latin in the thirteenth century by Bartholomaeus de Messina at the request and at the court of king Manfred of Sicily.[146] In the early fourteenth century Dino del Garbo of Florence wrote *Recollectiones in Hippocratem de natura foetus*, a copy of which was in the library of the Florentine physician, Ugolino da Montecatini (di Caccino).[147] The *De natura puerorum* was printed in the sixteenth century in the translation made by Bartholomaeus,[148] as well as in that by Cornarius and others.[149] Of the other Hippocratic writings on this and allied subjects there appears no trace in the Latin manuscripts before 1500. Yet Pico della Mirandola cites the tract " On the birth in the eighth month," in his treatise against astrology in the closing decade of the fifteenth century.[150] However, the Hippocratic obstetrics, and gynaecology, appear to have been known in the west in an early Latin translation entitled, *De causis mulierum*.[151] Hippocrates was one of the authorities named and utilized in the popular work on " Women's diseases," entitled or by Trotula.[152]

libraries of Canterbury and Dover, 1903, p. 346: Practica puerorum et liber medicinalis Ypocratis in gallico cum tabula in principio.

[145] *Spec. nat.*, vol. 2, lib. XXXII, cap. xxxiii, Ex Epistola Ypocratis de anathomia. In matrice quidem sperma . . . ; cap. xliii, De embrionis formatione. De situ et positionis infantis in utero. Ypocras in epistola de anathomia. See also cap. 1.

[146] Diller, *loc. cit.*, 1932, vol. 23, no. 3, p. 57; Thorndike and Kibre, *Catalogue of incipits*, col. 674; Klebs 116.2-6; *Articella* 1487, fols. 152v-[154v]. Two Vatican manuscripts are listed by Haskins, *op. cit.*, 1927, Additions and corrections, xiv, 269.

[147] Sudhoff, in *Archiv für Gesch. d. Mediz.*, 1912, vol. 5, pp. 225 ff.; 233, item [46]. The work was printed at Venice, 1518, together with the comm. of Jacobus Forliv. on (Hipp.) *de generatione embrionis* (British Museum printed book catalogue).

[148] Printed at Venice, 1502, in fol.; and in 1518, fol. (Littré, vol. 7, p. 468; Kühn, vol. 21, p. clix).

[149] Editions are given by Littré, vol. 7, pp. 468-69.

[150] Disp. in astrol., Lib. III (Opera omnia Ioannis Pici Mirandulae Concordiaeque comitis, Basel, 1572, fol.), pp. 463-64; and see Littré, vol. 7, pp. 432-53; 453-61.

[151] Paul Diepgen, " Reste antiker Gynäkologie im frühen Mittelalter," *Quellen und Studien zur Geschichte der Naturwissenschaften u. der Medizin*, 1933, vol. 3, no. 4, pp. 18-34. The work was published by Walter Brütsch, *De diversis causis mulierum*, Diss. in medicine, Freiburg, 1922; cf. Littré, vol. 8, pp. 10 ff. No Latin MSS. are listed by Diels. For an early medieval collection of tracts on gynaecology, see H. E. Sigerist in *Bulletin of the history of medicine*, 1943, vol. 14, p. 108.

[152] Florence, Laurent. Plut. LXXIII. Cod. 37, 13th cent., fol. 1 ff. (Bandini, *Catalogus*, vol. 3, p. 69); and see P. Meyer in *Romania*, 1915-1917, vol. 44, pp. 206 ff., where a list

Of the Hippocratic work commonly known as *Epidemics*, or "On popular diseases," the middle ages apparently knew only the sixth book, which is believed to belong to a period later than that of the earlier five books. This sixth book was commented on by Galen,[153] and was reproduced in the Latin manuscripts and in incunabula editions of the *Articella*,[154] together with the commentary by Johannes Alexandrinus, the Greek physician of the late sixth or seventh century.[155] Latin manuscripts with the commentary of Galen date from the thirteenth and fourteenth centuries, and contain the translation made probably by Burgundio of Pisa,[156] which may have been the same as the version current earlier, since a *Liber epidemiarum* is included in the twelfth century along with several other Hippocratic works in a list of books donated to St. Cuthbert's church at Durham by master Herebertus, a physician.[157] The work is also included in the thirteenth century *Bibliomania* of Richard of Furnival.[158] The sixth book of the *Epidemics* is generally thought to be of Cnidian origin since it departs somewhat from the Hippocratic doctrine of a general pathology, and gives greater attention to specific symptoms than is usual in the Hippocratic writings. The tract contains in addition to the general information on hygiene, gymnastics, and pathology, several reports on individual case histories, and includes an interesting account of the coughing epidemic, somewhat similar to an influenza wave, that took place at Perinthus in the winter. The *Epidemics* is still considered to be of practical utility because of its fund of information on diseases and fevers prevalent in warm regions. The remaining books of the *Epidemics* were not printed until the sixteenth century.[159] They are found in a handsome

of MSS. of this work is found; Hippocrates is named, pp. 207, 208, 299. See also P. Meyer, *loc. cit.*, 1903, vol. 32, pp. 87 ff.

[153] The Galenic commentary 7 and 8 to the sixth book of the *Epidemics* is extant only in Latin translation, according to R. Fuchs, "Gesch. d. Heilkunde bei den Griechen," in *Puschmann Handbuch*, vol. 1, p. 205; Diels, 1905, p. 104; 1906, p. 51. However, in a Munich MS. (CLM 31), dated A. D. 1320, fol. 130, there is indicated "Primus libri epidimiarum Hippocratis."

[154] Klebs 116.2-6; also in *Articella*, Lyons, 1525; and in the *Opera* translated by Cornarius, Basel, 1558, p. 530. For other 16th century editions which included the other books of the *Epidemics*, see Littré, vol. 2, pp. 593-94; vol. 5, pp. 40-41.

[155] Temkin in *Kyklos*, 1932, vol. 4, pp. 51 ff.; 67; V. Rose, "Ion's Reisebilder und Ioannes Alexandrinus der Arzt," *Hermes*, 1871, vol. 5, pp. 205 ff.

[156] Cambridge, St. John's College 78, 13th cent., fols. 68-70; Vatican Palat. 1079, 14th cent., Epid. cum comm. Johannis Alexandrini; Diels 1905, pp. 10, 19, 104; Thorndike and Kibre, *Catalogue of incipits*, col. 575, 591; Littré, vol. 5, pp. 267-357.

[157] Becker, *Catalogi bibliothecarum antiqui*, Bonn, 1885, p. 243, no. 117, item 465.

[158] Delisle, *Cabinet*, vol. 2, p. 533, item 133.

[159] See the references in note 154.

manuscript in the Laurentian library at Florence in a Latin translation from the Greek, preceded by a letter of dedication to pope Leo X, by the translator, Manens Leontius, who appears to be otherwise unknown.[160]

Another Hippocratic work variously entitled in the manuscripts, *De vita humana*, *De natura hominis*, or *De humana natura vel de elementis*, appeared frequently in the medieval manuscripts,[161] as well as in incunabula editions, usually with the commentary of Galen. The tract was first printed with works ascribed to Rasis in 1481;[162] then some five years later with several brief selections from Hippocratic writings in the translation by Andreas Brentius.[163] It was also printed with Maimonides, *Aphorismi*, in the edition of Venice, 1500;[164] and in the collected works of Galen in 1515 (I, fol. 21r).[165] The first seven chapters of this tract treat of the four humors which are said to be analogous to the four elements, hence the use of these two alternative titles in some manuscripts. Man's body is said to be made up of blood, phlegm, yellow bile, and black bile. Perfect health is enjoyed when these elements are duly proportioned one to another. The work ends with a discussion of the relation between these humors and the four seasons.[166]

There is also extant under Hippocrates' name in manuscripts and in early printed editions, a short separate work on humors with a commen-

[160] Hippocrates, De morbis vulgaribus, libri vii, Manente Leontio interpr., Laurent. Plut. LXXIII. Cod. 12, 107 fols. (Bandini, vol. 3, p. 31). Inc. dedic. "Inter graves ac salvas Italiae procellas . . ." text inc. "In Thaso circiter aequinoctium autumnale . . ." Bandini dates the MS. as 15th century, yet if the letter of dedication to Pope Leo X represents the date of the completion of the translation it must be early 16th century, since Leo X did not become pope until 1513.

[161] Diels 1905, pp. 21, 56, 101; Kühn, vol. 21, p. cxlvii; Thorndike and Kibre, *Catalogue of incipits*, col. 575, 578; Littré, vol. 6, pp. 32-69; vol. 1, p. 385, indicating a fragment of the work in Paris BN 7027, 10th cent., item 1. Cf. Hunterian Museum, Glasgow 323, 15th cent., item 12, which is apparently the same as the anonymous work listed in Thorndike and Kibre, *op. cit.*, col. 300: inc. "Homo de humo factus [est constat] ex quattuor humoribus . . ." See below note 168. Miriam Drabkin also notes the Hippocratic, *De natura humana vel corruptione*, as in an early MS. written in uncial script at Paris, BN nouv. acq. 203: *Bulletin of the history of medicine*, 1942, vol. 11, p. 412.

The above work is to be distinguished from the tract entitled, *De natura humana*, which is variously ascribed to Hippocrates, Galen, Constantinus Africanus, and Arnald of Villanova: Thorndike and Kibre, *op. cit.*, col. 91-92; printed with Galen, *Opera*, 1515, vol. 1, fols. 40v-41v; and noted by Diels 1905, p. 142.

[162] Also in 1497 and 1500: Klebs 826.1-3.

[163] Also in 1490: Klebs 519.1-3.

[164] Klebs 644.2.

[165] Littré, vol. 6, pp. 30-31, lists other editions of the 16th century.

[166] Hippocrates with an English translation by W. H. S. Jones, Loeb classical library, 1931, vol. 4, pp. xxvi, 3 ff.

tary by Galen.[167] This tract which is generally regarded as spurious relates to the treatment and prevention of disease. After the first sentence it has little to say on the subject of humors, instead it goes on to give, in short terse statements that are not connected, simple directions regarding diagnosis and various types of treatment.[168] In addition there is further encountered in late manuscripts a tract entitled, *De IV elementis*,[169] which may be related to the *De elementis* included with the *De aere et aquis*, in a manuscript written about 1200 and noted by Haskins.[170]

Also circulated under Hippocrates' name in the middle ages was the treatise on nutriment with the varying titles, *De nutrimento et nutribili*, *De alimento*, and *De cibis*. It appeared sometimes with the commentary by Galen, to whom it was occasionally attributed.[171] The *De nutrimento* is, however, not the same as the *De alimentorum facultatibus libri III*,

[167] Thorndike and Kibre, *Catalogue of incipits*, col. 490; Kühn, vol. 21, pp. cxv-cxvi; Diels 1905, p. 54, listing London, BM Harleian 1585, 12th cent., fol. 6v, excerpt (De IV humoribus ex quibus constat humanum corpus. "Quattuor humores . . ."); Sloane 1975, 13th cent., fol. 7v, as in Harleian; Rome, Angelic. 1338 (T. 4. 3), 14th cent., fol. 38, "De augmento humorum. Placet nunc quidem exponere . . ." Diels 1905, p. 103 for Galen's commentary on the work, lists no Latin manuscripts.

[168] Hippocrates with an English translation by Jones, vol. 4, pp. xxx-xxxii, 63-95; Littré, vol. 1, pp. 368-70, and cf. pp. 258-59; also vol. 6, pp. 39 ff., paragraph 4 of the *De natura humana*. Littré, vol. 5, pp. 470-503, considers this the 8th book of the *Epidemics*. It is not clear whether this work may be identified with the Epistola Ypocratis, from which is taken, "corpus igitur omne ex quatuor humoribus constitutum est . . ." cited by Vincent of Beauvais, *Spec. nat.*, vol. 2, lib. XXXII, cap. lxx; *Spec. doct.*, lib. XXIII, cap. xvii. See also M. R. James, *The ancient libraries of Canterbury and Dover*, Cambridge, 1903, p. 333, "Epistola Ypocratis et Galieni de humoribus quatuor"; . . . "Exsequitur Ypocras de humoribus," in the 15th century inventory of the library of St. Augustine's abbey. See above note 10, the quotation from Rabanus Maurus. Cf. Littré vol. 7, pp. 543-615, following the *De natura pueri*; also Thorndike and Kibre, *Catalogue of incipits*, col. 490. The *Epistola de humoribus*, noted in Thorndike and Kibre, *op. cit.*, 550, occurs in the middle of the Ps. Hippocratic Epistola ad regem Antiochum, *Corpus medicorum latinorum*, 1916, vol. 5, p. xx.

[169] Diels 1905, p. 46, lists a Dresden MS. (Db91), of the 15th cent. This may be derived from the *De natura hominis*. Littré, vol. 8, p. 583 ff., gives the above title as an alternative designation for the work "On Fleshes." See also Diels 1905, p. 64; G. Lacombe, *Aristoteles latinus*, Rome, 1939 (Corpus philosophorum medii aevii), p. 437; Thorndike and Kibre, *op. cit.*, col. 592, inc. "Quoniam elementum minima est . . ." In Cambridge, Trinity 1404, 15th cent., fol. 1 ff. is: Hippocrates, "Of the foure elementes. It is to be understood that there be foure . . ." See also the following note; and cf. Thorndike and Kibre, "More incipits," *Speculum*, vol. 17, 1942, p. 355, col. 1.

[170] Haskins, *Studies in the history of mediaeval science*, 1927, p. 94, note 77, inc. "Elementum in mundo tocius est corporis minima pars . . ."

[171] Diels 1905, p. 33; Littré, vol. 9, pp. 94-121; Hippocrates with an English translation, Jones, Loeb classical library, vol. 1, p. 337; Thorndike and Kibre, *op. cit.*, col. 452. Another MS. is Vatican 305, fols. 96v, 131v, Epistola de nutrimento.

ascribed to Galen, for which Diels lists a number of thirteenth century manuscripts, with William of Moerbeke and Accursius of Pistoia as translators.[172] Translated from the Greek into Latin by Nicholas de Reggio of Calabria in the fourteenth century, the chief claim of the *De nutrimento* to be classed as a Hippocratic work is its superficial likeness to the *Aphorisms*.[173] It appears, however, to have been accepted as authentic by Erotian and Aulus Gellius. The work which opens, "Nutriment and form of nutriment, one and many . . ." is of more philosophical than medical interest. In it the author applies "the theory of perpetual change to the assimilation of food by a living organism, and Nutriment is the result." Digestion is said to consist of the solution in moisture of nutritive food which is then carried to the various parts of the body and is assimilated by the bones, "flesh, and so on, as it comes into contact with them."[174] No printed editions of the work appear before the sixteenth century.[175]

Closely bound up with the medieval belief in the influence of the stars on health and disease[176] was the tract on astrological medicine or the prognostications of the course of a disease according to the moon, which circulated under Hippocrates' name. Like the texts of the prognostications or signs of death, this work appears in various recensions in the manuscripts, as Dr. Thorndike has already pointed out,[177] as well as in several

[172] This work opens variously as "Sicut dixit Gal., Quia corpora hominum . . ." or "Omnia corpora humana . . .": Diels 1905, p. 77; or "Dicit Galienus corpora . . .": Thorndike and Kibre, *Catalogue of incipits*, col. 196; "More incipits," *Speculum*, 1942, vol. 17, p. 358, col. 1.

[173] Thorndike and Kibre, *Catalogue of incipits*, col. 452; Vienna 2328 [Rec. 948], Fol., 1314 A. D. [*sic*], fol. 33 (Hermann, 1928, vol. 5, pp. 15-16).

[174] Jones translation, Loeb classical library, vol. 1, pp. 337-38; 343-361.

[175] Littré, vol. 9, pp. 96-97, lists editions from the 16th century.

[176] Thorndike, *History of magic and experimental science*, 1923, vol. 1, pp. 178-179; vol. 2, pp. 671, 893 ff.

[177] *Ibid.*, vol. 2, pp. 924-25; Thorndike and Kibre, *op. cit.*, col. 145, 213, 215, 296, 450, 473, 579, 639, 740; Diels 1905, p. 50; M. Steinschneider, "Die Europäischen Übersetzungen aus dem Arabischen bis Mitte des 17 Jahrh.," *Sitzungsberichte der k. Akad. der Wissens. in Wien*, Phil.-Hist. Kl., 1906, vol. 151, pp. 19, 27, item n(124). In the inventory of the library of St. Augustine's Abbey, Canterbury, 15th cent., there is listed: "Astronomia Ypocratis de infirmitatibus" (James, 1903, p. 329, no. 1160); also "Libellus Ypocratis de naturis signorum pro medicis" (*Ibid.*, p. 330, no. 1165). See also Cambridge, Corpus Christi 424, 15th cent., vol. 4, fols. 7-9, Pronosticatio infirmitatum; and 37, 14th cent., fols. 61-65, Tractatus Ypocratis pro infirmitatibus per astronomiam cognoscendis; British Museum, Sloane 780, 15th cent., fols. 55v-58v, De judiciis e lunae observatione formandis de sanitate, vita et morte infirmorum." See also Thorndike and Kibre, "More incipits," *Speculum*, 1942, vol. 17, p. 353, col. 1.

incunabula editions.[178] It was commented upon or edited by the Arabic author Haly, and was translated into Latin from the Arabic at the close of the thirteenth century by William of Moerbeke,[179] Arnald of Villanova,[180] and Peter of Abano.[181] In the fourteenth century, the work was commented upon by Cecco d'Ascoli, and was cited in the latter's *Sfera*.[182]

Although the authenticity of this treatise which in one version asserted that he is not a good physician who is unacquainted with astronomy, was unquestioned by medieval physicians, modern scholars have entirely rejected and omitted it from the Hippocratic corpus. Yet there is some foundation for medieval credulity as to its relation to Hippocratic doctrines, since in the treatise on "Airs, waters, and places," which is generally accepted as authentic, stress is placed not only on the influence on health and disease of the changes of the seasons, but also of the rising and settings of the stars: "For knowing the changes of the seasons, and the risings and settings of the stars, with the circumstances of each of these phenomena, he will know beforehand the nature of the year that is coming . . . If it be thought that all this belongs to meteorology, he will find out, on second thoughts, that the contribution of astronomy to medicine is not a very small one but a very great one indeed." [183]

[178] The work was printed at Padua, 1483; also (in the translation of Peter of Abano) as an appendix to the *Opusculum repertorii pronosticon in mutationes aeris*, Venice, 1485, fol. 80v); with Maimonides, *Aphorismi*, 1489, and 1500; with Rasis, *Liber Almansoris*, 1481, 1497, 1500; and at the turn of the century with Magninus Mediolanensis, *Regimen sanitatis*, [Lyon? ca. 1500-1505], fol. xc recto (New York Academy of Medicine): Klebs 518.1; 406.1; 644.1-2; 826.1-3; 640.5-6.

[179] Thorndike, *op. cit.*, vol. 2, p. 924, inc.: "Sapientissimus ypocras omnium medicorum peritissimus . . ." See also Hunterian, Glasgow 513.3, late 14th cent., Treatise on zodiacal influence, in English; and 461.2, De virtute lunae, inc. "Sapientissimus Ypocrates et omnium . . ."

[180] Glorieux, *Répertoire des maîtres en théologie de Paris au XIII^e siècle*, 1933, part 1, pp. 121, 425.

[181] Thorndike, *op. cit.*, vol. 2, pp. 893-94, 911, 924-25; and see note 178 above. Cf. British Museum Add. MS. 34, 603, item 6, in an astrological manual compiled c. 1500 by Marcus Schynagle of Cracow.

[182] G. Boffito, *Suppl. Giornale storico della lett. ital.*, Torino, 1903, vol. 6, p. 45, note 1. See also *Pronostichi d'Ipp. volgar. nel buon secolo d'lingua*, Bologna, 1866 (Scelta di curiosità lett., vol. 67), p. 14.

[183] Hippocrates with an English translation by W. H. S. Jones, Loeb classical library, vol. 1, p. 73; and cf. Diller in *Philologus, Suppl.*, 1932, vol. 23, no. 3, end of cap. 2, p. 85: "Qui vero ea que de re altissima tractavimus rata tenent et credunt, norint [*sic*] astronomiam medicine non minimam partem esse, que quippe homines premoneat mutationes partis temporum." See also *ibid.*, cap. 10, p. 93 ff.; and p. 164 ff.; Thorndike, *op. cit.*, 1923, vol. 1, pp. 178-79; R. Fuchs, in *Puschmann Handbuch*, 1902, vol. 1, p. 234, who indicates that the importance of meteorology and astronomy for medicine was also noted by Plato.

In addition to the foregoing works, there was also held in high esteem during the medieval period the Hippocratic oath (*Iusiurandum*), which in the translation by Arnald of Villanova, and that of Petrus Paulus Vergerius was printed before 1500 in editions of the *Articella*.[184] In a fifteenth century Vatican manuscript a translation with the same incipit as that by Vergerius is said to have been made by the humanist, Leonardo of Arezzo.[185] The translation by Andreas Brentius was further printed before 1500 in the collection which included the *De natura hominis*.[186] There was also still another translation before 1500 by the humanist, Nicholas Perotti, but this was not published until the sixteenth century.[187] Closely associated with the *Oath* and generally accompanying it in both manuscripts and printed editions,[188] was the *Law* or *Lex Hippocratica*, which set forth the essential natural endowment and education necessary in the preparation for an understanding of medicine by a good physician, as well as the ethical and moral code suitable to such a physician.[189] Arnald of Villanova is said to have translated the *Lex Hippocratica* from Greek into Latin in the explicit of the work as it appears in the printed editions.[190] Some doubt, however, has been cast upon Arnald's knowledge of Greek.[191] Both the *Oath* and the *Law* were also translated from Greek into Latin in the fourteenth century by Nicholas de Reggio of Calabria.[192]

[184] Littré, vol. 4, pp. 610 ff.; 628-33; Diels 1905, p. 18; Hippocrates with an English translation by Jones, Loeb classical library, 1923, vol. 1, pp. 291-301; S. Ayscough, *Catalogue*, 1782, p. 558: Sloane 2820, 8; Klebs 116.2-6.

[185] Vatican Palat. 1248, fol. 91r-(92r), Hippocratis Ius Iurandum. Inc. "Testor Apollien. et Esculapium . . ." In the lower margin in a different hand from the rest is written: "Leonardus Aretinus de Greco in Latinum traduxit anno domini 1476^to 17 die Junii . . ." Cf. Thorndike and Kibre, *Catalogue of incipits*, col. 720.

[186] Klebs 519.1-3.

[187] M. Morici, *Una biografia inedita di Niccolò Perotti*, Pistoia, 1896, p. 12; editions of the 16th century and after are listed by Kühn, vol. 21, p. clxiii; and Littré, vol. 4, pp. 626-27.

[188] Thorndike and Kibre, *op. cit.*, col. 402, 403; Diels 1905, pp. 18-19; Littré, vol. 4, pp. 634-35, 638-43; and the editions listed above (Klebs 116.2-6; 519.1-3). Littré, vol. 4, p. 636; and Kühn vol. 21, p. clxv, indicate editions of the 16th cent. and after.

[189] Hippocrates with an English translation by Jones, Loeb classical library, vol. 2, pp. 257 ff.

[190] *Articella*, Venice, 1487, fol. 211r: "Explicit liber Hyppocratis de lege qui introductorius dicitur traductus per Arnaldum de Villanova de Greco in latinum."

[191] *Histoire littéraire*, vol. 28, p. 76.

[192] Lo Parco, *op. cit.*, 1913, pp. 289-90, citing Naples Bibl. naz. Cod. VIII. D. 25, 14th cent., fols. 171-72, "Liber de lege . . . liber juramentorum . . . translati a Nicolao de Regio"; also *ibid.*, p. 285: Vatican 2369, 14th cent.; and Vienna 2328 [Rec. 948], Fol. 1314 [*sic*], fol. 33v, Explicit liber de lege Ypocratis translatus a Nicolao de Regio (Hermann, 1928, vol. 5, pp. 15-16).

Coinciding with the medieval interest in numerology especially in the number seven, was the Hippocratic tract *De septimanis*, or *Hebdomadibus*, on the seven-fold order of the world. In this work it is shown that everything is regulated by the number seven, which is dominant in the phases of the moon, the seven winds, seven seasons, the seven ages of man, and the seven aids to existence; also in the articulation of the seven vowels, and finally in the fact that the earth itself has seven parts. Manuscripts of this work in Latin translation are extant from the tenth century.[193]

Directions to the physician on visiting the sick,[194] in the form of *Epistolae* were current before 1500; and there were further *Epistolae* on the pulse, on taking it, and on its variations;[195] as well as *Epistolae* or fragments on urines,[196] flebotomy,[197] fevers,[198] physiognomy,[199] Egyptian

[193] Diels 1905, p. 32, De septimanis, inc. "Mundi forma sic omnia ornata est . . ."; Littré, vol. 1, 385, 393 ff.; vol. 8, pp. 616 ff.; IX, pp. 430-44; R. Fuchs, "Gesch. d. Heilkunde bei den Griechen," *Puschmann Handbuch*, 1902, vol. 1, pp. 205, 211, where a Latin edition of Fabius Calvus at Rome, 1525, fol. is listed. Littré, vol. 8, pp. 634-73, reproduces the Latin text from the Paris BN 7027, end of 10th cent. MS.; and in vol. 9, p. 433 ff. the text from a better MS. text: Milan Ambros. G 108 infer. Fol., early 10th, cent. On the origin and significance of this tract see W. H. Roscher, "Über Alter, Ursprung und Bedeutung der Hippokratischen Schrift von der Siebenzahl," *Abhandl. d. K. Sächsischen Gesellsch. d. Wissensch., Philos.-Hist.* Kl., Leipzig, 1911, vol. 28, no. 5.

[194] *Bibliomania* of Richard of Furnival, Delisle, vol. 2, p. 533: Item Epystola de visitando infirmo; M. R. James, *op. cit.*, 1903, p. 333; Epistola Ypocratis et Filonii de visitacione infirmi, and a second copy followed by Epistola Ypocratis et Filonii de medico qualem oporteat esse. See also Diels 1905, p. 56: BN 6988 A, 15th cent., "Quomodo medicus debeat visitare infirmum." A French translation under Hippocrates' name of the Latin text printed as anon. in *Collectio Salernitana* (De Renzi, vol. 2, p. 74), is noted by P. Meyer, in a 13th cent. French MS. at Cambridge: *Romania*, 1903, vol. 32, pp. 84-87; and cf. *loc. cit.*, 1915-17, vol. 44, p. 196. Arnald of Villanova is believed to have been inspired by this Ps. Hippocratic tract in his *Cautelae medicorum*: *loc. cit.*, 1903, vol. 32, p. 120; *Hist. litt.*, vol. 28, p. 69. For other similar texts see H. E. Sigerist in *Bulletin of the history of medicine*, 1941, vol. 10, pp. 31-32.

[195] Bibliomania, *loc. cit.*, Epystola de tangendo pulsu; Item epystola de pulsu; Item epystola de differentiis pulsuum. Cf. Diels 1905, p. 47, with no Latin MSS.

[196] Bibliomania, *loc. cit.*, Epystola de urinis; Diels 1905, pp. 44, 141; Thorndike and Kibre, *op. cit.*, col. 576; V. Rose, *K. Bibl. zu Berlin* (Codices Phil.), 1893, vol. 1, p. 365. Cf. *Prognostics*, Littré, vol. 2, pp. 139-43, etc., on urines.

[197] Bibliomania, *loc. cit.*, Item Epystola de flebothomia; Glasgow, Hunter, 404 (V.3.2), late 9th cent., item 5; Diels 1905, pp. 49, 52; Thorndike and Kibre, *op. cit.*, cols. 483, 577; cf. *ibid.*, col. 267; Diels 1905, p. 41. See also Delisle, *Cabinet*, 1881, vol. 3 (Bibl. de la Sorbonne, 1338 A. D.), p. 66; and H. E. Sigerist in *Bulletin of the history of medicine*, 1941, vol. 10, p. 31; 1943, vol. 14, pp. 92-94.

[198] Diels 1905, p. 46, listing Montpellier 185, 9th to 10th cent., no. 8.

[199] Thorndike and Kibre, *op. cit.*, col. 84, 203; Diels 1905, pp. 51, 56; Cambridge, Trinity 1149, 13th cent., fols. 35v-37v, Ypocras de contemptu mundi (Physiogn. Hippocratis) inc." Postquam consideravi . . ."; Douai 715 (Physiogn.) inc. "Capilli autem plurimi . . ."; Diels 1905, p. 56, under *Excerpta varia*.

days,[200] virginity,[201] and on mineral waters;[202] in addition to an *Antidotary*,[203] and a collection of *Experimenta*, which claimed to have been tried out and never to have failed in practice.[204]

Several other *Epistolae* attributed to Hippocrates, but obviously spurious, circulated throughout the middle ages. A number of them were utilized by Vincent of Beauvais in his *Speculum naturale*.[205] Some of the letters were addressed to Alexander, one of them on the time for gathering herbs,[206] others were addressed to Octavian, king of the Egyptians, on the qualities or virtues of beasts;[207] and there were *Epistolae* on diet, still others on diseases, and so on.[208] But even more frequently encountered in the manuscripts from the ninth century onward under Hippocrates' name, were the letters addressed to Maecenas [209] and to king Antiochus.[210]

[200] Epistola Ypocratis de diebus aegypticis (9th-11th cent.), noted by L. C. MacKinney, *Early medieval medicine*, Baltimore, 1937, p. 202.

[201] Thorndike and Kibre, "More incipits," *Speculum*, 1942, vol. 17, p. 352, col. 1; Diels 1905, p. 53, under *Epistulae variae*, "Epist. de virginibus"; V. Rose, *loc. cit.*, p. 363, Incipit Epistola Ypocratis de virginibus (9th-10th cent.).

[202] Diels 1905, p. 48.

[203] M. R. James, *The ancient libraries of Canterbury and Dover*, 1903, p. 58.

[204] S. Ayscough, *Catalogue*, 1782, p. 557: Sloane 3550, 14th cent., fols. 230-41; Hippocrates, Experimenta quae nunquam fallunt, quoque probata sunt. Cf. Becker, *op. cit.*, 1885, p. 233, In monasterium St. Peter, at Salzburg, 12th cent., item 27: Experimenta Ypocratis. See also Diels 1905, p. 53, inc. "Sicut sunt quattuor tempora anni . . ." under *Experimenta*, which may, however, be a variant of the text indicated in Thorndike and Kibre, *op. cit.*, col. 551: "Quatuor sunt venti . . . ;" and published as anon. "Sapientia artis medicinae," by M. Wlaschky, in *Kyklos*, 1928, vol. 1, p. 104 ff. See also Munich (CLM) 31, 1320 A. D., fol. 46 ff.

[205] *Spec. nat.*, vol. 1, lib. X, cap. xxi; XI, cap. xv. xxv, xliv; XII, cap. i, xiii.

[206] Diels 1905, p. 53, under *Epistulae variae*, "Ep. ad Alexandrum de tempore herbarum," in Montpellier, École de médec., 185, 9th-10th cent., no. 6; 277, 14th-15th cent., no. 20 (M. Drabkin, in *Bull. of hist. of medic.*, 1942, vol. 11, p. 433); Thorndike and Kibre, *op. cit.*, col. 407; cf. Diels 1905, p. 54; Thorndike and Kibre, "More incipits," *Speculum*, 1942, vol. 17, p. 358, col. 2, inc. "Numquam nisi fine Aprilis . . ." The work was ed. by Wickersheimer in *Janus*, 1937, vol. 41, pp. 147-48.

[207] Diels 1905, p. 52.

[208] Diels 1905, pp. 25, 53-55; BM Sloane 2030, 12th cent., fol. 132; 3866, 15th cent.; still others in Thorndike and Kibre, *op. cit.*, col. 404, 441; also in *Speculum*, 1942, vol. 17, p. 354, col. 2; and in Bibliomania of Richard of Furnival, Delisle, *Cabinet*, vol. 2, p. 532: Epystola de corporibus hominum, . . . de quaternitate corporis humani proprie, . . . de morbis quatuor membrorum principalium ad Antigonum, . . . de expositione membrorum ad Vindicianum, . . . de conservatione sanitatis ad Prensionium. See also V. Rose, *loc. cit.*, p. 365, for "Epistola de sanguine cognoscendo a medico qualis sit."

[209] Littré, vol. 1, p. 385; Diels 1905, p. 52; and p. 139, under Galen; Thorndike and Kibre, *Catalogue of incipits*, col. 297, 385, 553; *Corpus medicorum latinorum*, 1916, vol. 5, pp. xx, 13-17. Cf. Delisle, *Cabinet*, vol. 2, p. 476, listing Bibl. de Cluni, 12th to 13th cent., item [453] "Volumen in quo continetur Ypocras ad Mecenatum de medicina, in quo etiam

In the fifteenth century, one of these, an *Epistola Ypocratis de ratione ventris ac viscerum ad Antiochum regem*, came into the possession of William Becchi, bishop of Fiesole.[211] The general tenor and purpose of these letters appears to have been the providing in convenient form of dietary and medical or hygienic rules of health, which if followed would prevent disease and preserve the health and well-being. They are somewhat similar to the famous letter addressed purportedly by Aristotle to Alexander the Great, which in the version prepared by Roger Bacon appears to have drawn on Hippocrates' admonitions to his disciples regarding the importance of abstinence as more beneficial for the health than too great indulgence in food.[212] The *Epistolae* said to have been written by Hippocrates to Alexander, Maecenas, and Antiochus, also contained in some instances the regimen of health and book of diets. In addition there were in Latin as well as in English and French versions, letters said to be addressed by Hippocrates to king or emperor Caesar, dating from the fourteenth and fifteenth centuries.[213] There was further

multe herbe sunt depicte." V. Rose, in *Hermes*, 1874, vol. 8, p. 31, note, indicates this and the following letter in Laon 420, 9th-10th cent., items 2 and 3; (item 2): Antiocho regi Hippocrates. Eam te in hoc regnandi munere . . ."; and (item 3), Id. [*sic*] ad Mecenatem. Quem roganti tibi . . ."

[210] Thorndike and Kibre, *op. cit.*, col. 227, 634; *Speculum*, 1942, vol. 17, p. 358, col. 1; p. 361, col. 2; Diels 1905, p. 51; V. Rose, K. Bibl. zu Berlin (Codices Philippici), vol. 1, p. 325; Kühlewein, *Philologus*, 1884, vol. 42, pp. 120-21, indicating Monte Cassino 69, 9th cent., and 97, 10th cent. W. Puhlmann, "Die lateinische medizinische Literatur des frühen Mittelalters," in *Kylos*, vol. 3, p. 405, states that the letter of Hippocrates to king Antiochus is a Latin version of the Greek letter of Ps. Diocles to Antigonus (cf. Thorndike and Kibre, *op. cit.*, col. 296); and see also R. Laux, *Kyklos*, vol. 3, p. 430. H. E. Sigerist in *Bulletin of the history of medicine*, 1941, vol. 10, pp. 34-35.

[211] R. Sabbadini, *Le scoperte dei codici*, 1905, p. 118, note 18.

[212] *Opera hactenus inedita Rogeri Baconis*, (ed. R. Steele, Oxford, 1920, fasc. 5, p. 66). Cf. J. Haupt, in *Sitzungsb. der K. Akad. d. Wissensch. in Wien*, Phil. Hist. Kl., 1872, vol. 71, pp. 507 ff., 516, indicating the similarity of several "diets for the year," to the letter of Aristotle addressed to Alexander.

[213] Cambridge, Trinity 905, II, 15th cent., fols. 81-82, Dieta Ypocratis. This book Ypocras sente unto kynge Cesar . . . ; and the French version, "Ci commaince le livre du gouvernement de santé que Ypocras fist, e l'envoya a l'emperiere Sesar pour la santé garder et pour avoir vie plus longues. Il fist demander a Galien le bon mire. . . " P. Meyer, in *Romania*, 1886, vol. 15, p. 274, indicating several MSS.; also *loc. cit.*, 1903, vol. 32, pp. 84-85, for still further MSS. Several French translations of the 13th century begin with the theory of the four humors; and then follow the medical prescriptions. See also *loc. cit.*, 1911, vol. 40, pp. 53-58; and S. Ayscough, Catalogue, 1782, pp. 557-58: Sloane 706, 15th cent., p. 96, Book of diett sent unto king Caesar; 2412, 14th cent., le livre qui envoia à Caesar l'empereur de Rome; 2584, 14th cent., p. 17, The book, which he sent to the emperor Caesar; 3126, 14th cent., Epistre au Caesar l'empereur; 3285, 15th cent., p. 72, His book sent to the emperor Cesar; 3550, item 10, libel missus ad Caesarem.

an *Epistola* addressed to Ptolemy, which is in all likelihood merely a variant of the above letters to Maecenas or Antiochus.[214]

The subject of diet and the relation of foods to therapy appear to have been favorite medieval topics for in addition to the *Epistolae* on the subject there was current from the sixth century on the tract variously entitled, "De virtute herbarum et de cibis," *De cibis, de victu*, or *Peri dietes, h. e. de observantia ciborum*. The work is found in three ninth century manuscripts at St. Gall (762), Cheltenham (Phillipps 386), and Monte Cassino (69),[215] and has been identified with the work referred to by Cassiodorus.[216] Both Diller and Diels have concluded that it is a translation of the first book of the *De victus ratione*, or *Regimen*, and that it is similar to the so-called *Epistola Antiocho rege de tuenda valetudine* noted above. In the collection of tracts translated by Andreas Brentius and printed before 1500,[217] the *De victus ratione* follows immediately after the *De natura hominis* and appears to be a general introductory tract on hygiene, giving advice on the regime to be observed; that is the kinds of food, exercise, baths, clothing, and so on, that are to be utilized according to the seasons; the *complexio* or entire constitution of the individual; his age; the principle (ratio) of the foods; and the natural virtues.[218] According to Kühn the work was frequently printed as by Polybius.[219]

[214] Diels 1905, pp. 40-41, Ad Ptolemaeum regen epistola de hominis; Thorndike and Kibre, "More incipits," *Speculum*, 1942, vol. 17, p. 355, col. 1. This is apparently the same as the work translated by John Reuchlin and printed under the title, Hippocratis de praeparatione hominis ad regem Ptolemaeum, at Tubingen, 1512; Kühn, vol. 21, pp. clxxiii-clxxiv; L. Geiger, *Johann Reuchlin, sein Leben u. sein Werke*, Leipzig, 1871, p. 96.

[215] Diels 1905, p. 25, Littré, vol. 1, 385; vol. 6, pp. 466-636.

[216] Diller in *Philologus, Suppl.*, 1932, vol. 23, no. 3, pp. 50 ff.; Diels, in *Hermes*, 1910, vol. 45, pp. 139 ff. reproduced the Latin translation found Paris BN 7027, 10th cent.; Incipit liber Peri diätis ipsius Ypocratis. Cum pervidissem eos qui prius conscripserunt de ratione . . ." See further Diels, *loc. cit.*, 1911, vol. 46, pp. 261 ff.

[217] Klebs 519.1-3.

[218] The edition of [Rome, ca. 1490] and a close reprint of [1500?], are in the New York Academy of Medicine. Following the "De natura hominis ab And. Brent. Pat. conversus," comes the *De victus ratione*. Diete homines hanc vivendi regulam servare debent. Hieme cibi plurimi . . . De victu pro qualitate corporis. Mollibus quique . . . (then with heading: De tuenda valetudine) De exercitatione. Hieme celerius . . . De balneis. Balneae aestate . . . De vestmentis . . . etc. (ending) . . . Omnes igitur homines qui iudicio prediti sunt: debent ex egrotatione secum reputare quam magni sit estimanda sanitas: exinque sibi suaeque valitudini scire consulere."

See also Hippocrates with an English translation by W. H. S. Jones, Loeb classical library, 1931, vol. 4, pp. xxxviii, 44-59; also Regimen I-III (or IV), pp. 224 ff.; Littré, vol. 6, pp. 73-87, Du régime salutaire. 1. Du régime selon les saisons.

[219] Kühn, vol. 21, pp. cli-clii 356. In a MS. at the Laurentian library (Plut. 73, Cod. 23, 13th cent., fols. 85-(91), there is found "Hippocras de regimine medicorum" (title

There were other tracts on diet, one entitled, "On universal and special diets"; [220] another current from the seventh century on was merely called "Diets of Hippocrates," and gave diets suitable to each of the twelve months of the year, beginning with January; [221] still others indicated the relation of diets to the four seasons, regions, and diseases, and were in all likelihood derived from the tract on "Airs, waters, and places." [222] A "Flores dietarum," or "Ornaments of diets," is also noted under Hippocrates' name by M. R. James; [223] and there were generally current from the early middle ages, *Dinamidia* attributed to Hippocrates.[224] Yet Sab-

in a more recent hand than the manuscript), Introductio ad practicam med. (inc.) Consideranti mihi votum bonum, votum castum suborta est de affectu nostro laetitia et gaudium . . . which is followed by an anonymous "De cibis et potibus," identifiable by its incipit: "De cibis et potibus praeparandis infirmis videamus . . ." as a tract variously ascribed to several medieval physicians (Thorndike and Kibre, *Catalogue of incipits*, col. 171).

[220] S. Ayscough, *Catalogue*, 1782, p. 558: Sloane 1610, 12, 14th cent., De dietis universalibus et particularibus.

[221] Diels 1905, p. 25, listing MSS. from the 9th cent. on; Thorndike and Kibre, *op. cit.*, col. 408; Karlsruhe (Hof- u. Landesbibl., Die Reichenauer Hdschr.), CXX, 9th-10th cent., fol. 211v, Diaeta Hippocratis, menses ianuarius zinziber et reuponticum bibere debet . . . Mense december . . . confecta sunt. For various German versions of this work and its relation to the so-called letter to Alexander by Aristotle, see J. Haupt, in *Wiener Akad. Sitzungsberichte*, 1872, vol. 71, pp. 507 ff.; 516 ff.

[222] Diels 1905, pp. 22, 55, Tempora pro sanitate corporum: St. Gall 225, 8-9th cent., p. 135; De situ regionum et dispositione anni temporum; Munich (CLM) 640, 15th cent.; cf. Littré, vol. 6, pp. 73-87 (Du régime salutaire. 1. Du régime selon les saisons); also sect. 10 of "Airs, waters, places," in Kühlewein's ed. in *Hermes* vol. 40, p. 262. For the discussion of this subject see also Hippocrates with an English translation by Jones, Loeb classical library, vol. 1, pp. 71-73, 99 (Airs, waters, places); vol. 4, pp. 84-92 (Humours); pp. 122-130 (Aphorisms); Diller, in *Philologus, Suppl.* 1932, vol. 23, no. 3, pp. 93 ff.; also Diller, *loc. cit.*, 1934, vol. 26, no. 3, pp. 115 ff. The relation of seasons to diet and health as found in the "Airs, waters, and places," is also similarly found in Roger Bacon's version of the so-called letter to Alexander by Aristotle: *Opera hactenus inedita*, (ed. R. Steele), Oxford, 1920, vol. 5, pp. 77 ff.; and see p. 81, note 1.

Other similar texts are listed by Diels 1905, p. 25. See also Dieta totius anni, Glasgow Hunt. 404 (V. 3. 2), late 9th cent., item 9; also Medicina mensium anni, BM Sloane 1754, 14th cent., fol. 1v; and Bibliomania of Richard of Furnival, in Delisle, *Cabinet*, vol. 2, p. 533: Epystola de observantia quatuor tempora; or Epystola de observantia singulorum mensium.

[223] *The ancient libraries of Canterbury and Dover*, 1903, p. 58: Flores dietarum Ypocratis.

[224] Diels 1905, p. 51; and 1906, p. 94, under Soranus, *excerpta varia*, lists MSS. of the 7th, 9th, 10th, 11th, and 13th cent. See also Ayscough, *op. cit.*, p. 558: Sloane 670, 4, 12th-13th cent., Dinamedia; also 84, 12th cent., fol. 34; 40, Liber dietarum dinamediarum et dietarum. Cf. Bibliomania of Richard of Furnival, *loc cit.*, p. 533: "Epystola dynamidiarum . . ." On the definition of *Dinamidia*, see L. C. MacKinney, "Tenth century medicine," *Bulletin of the Inst. of the hist. of medicine*, 1934, vol. 2, p. 361, note 36.

badini reports that in 1437, while he was at the council of Basle, Nicholas of Cusa, came into possession of the famous glossary of Greek and Latin terms which contained among others a work " new for then, the *Dynamidia*, with the names of Hippocrates and Galen." [225]

Also circulated in the middle ages as a work of Hippocrates was the tract on diseases of horses, translated into Latin from Arabic or Greek, in the thirteenth century by Moses of Palermo. This work which was looked upon as the principle treatise on the subject, was cited and utilized by most writers on veterinary medicine from 1250 to 1600.[226]

There is some manuscript evidence that other of the Hippocratic writings were known before the fifteenth century. Thus Diels notes the tract *De cancris et fistulis*, in a thirteenth century manuscript at Munich (no. 614); [227] also in the same codex, the tract " On wounds of the head." The last named, is very likely the same as the tract of the same name that contains an account of sutures and trephining, which attracted attention in the fifteenth century from both anatomists and surgeons.[228] In addition other brief extracts or excerpts on diseases, medicine, and the like are included in various manuscripts.[229] A medicine for the rich is ascribed to Hippocrates in a fifteenth century Hunterian manuscript at the university of Glasgow.[230]

Among the works brought to light in the west only in the fifteenth century as a result of the humanist interest in the Greek writings of antiquity,

[225] R. Sabbadini, *Le scoperte dei codici*, 1905, pp. 110, note 19; 112. On *Dynamidia* attributed to Ps. Galen, see Sigerist in *Bulletin of the history of medicine*, 1941, vol. 10, p. 35; 1943, vol. 14, pp. 81-82; and L. C. MacKinney, " 'Dynamidia' in medieval medical literature," *Isis*, 1935-36, vol. 24, pp. 400-404.

[226] Thorndike and Kibre, *Catalogue of incipits*, col. 639; and see G. B. Palma, " Per un trattato di mascalcia in dialetto Siciliano del secolo XIV," *Archiv. stor. sicil.*, 1924, vol. 14, pp. 206-19; Ps. Hippocrates, De curationibus infirmitatum equorum, ed. with two Italian versions of the 13th century: *Trattati di Mascalcia*, Bologna, 1865; Steinschneider, *loc. cit.*, vol. 149, p. 58.

[227] Diels 1905, p. 51. Kühn, vol. 21, p. cxxv, lists only Greek MSS., including one in the Laurentian library (Bandini, vol. 3, p. 45).

[228] Diels 1905, p. 10; Littré, vol. 3, pp. 150 ff.; Hippocrates with an English translation by Dr. E. T. Withington, Loeb classical library, 1927, vol. 3, (pp. 1-51), p. 2.

[229] Diels 1905, 54, listing: De morbis excerpta (several MSS.); De opere medicinae (several MSS.); Liber interrogationis; De hypostasi; De impressionibus; Thorndike and Kibre, *Catalogue of incipits*, col. 236, 296; Aristoteles latinus, codices descripsit G. Lacombe, Rome, 1939 (Corpus philos. medii aevii), p. 321: Ypocras de incumbationibus, Inc. " Quecumque in pubertate . . ."; also *loc. cit.*, p. 320, Liber Ypocratis dictus: Cavete medici. See Diels 1905, pp. 56-57, *Excerpta varia*.

[230] MS. 323 (U. 7. 17), item 16. Inc. " Si dolor capitis sit ex causa in essencia . . ."; and in the same codex, item 20, a tract " on the four infirmities," beginning: " Ypocras eximius medicorum dicit naturam humanum . . ."

were the tracts entitled *De flatibus* and *De passionibus corporis*, both of them translated into Latin from the Greek by Francesco Filelfo, who included them in his library.[281] A second translation of the *De flatibus* before the close of the fifteenth century was made by the humanist, Janus Lascaris.[282] In this tract "On breaths," there is an attempt to prove that air, which is so powerful in nature is generally also the prime factor in causing diseases.[283] The *De passionibus*, or *De affectionibus* was often published under the name of Polybius. It is a book of popular medicine intended primarily for the layman; with the object of putting him in a position to aid himself in his illness, by acquainting him with the elementary facts about the sources of illnesses; and making comprehensible to him the rules that direct the physician. Its therapeutics starts with the diseases of the head; the ears, nose; then progresses to the stomach, the chest, and so on.[284]

The incunabula presses further reproduced a few minor works or selections which do not appear to have been in circulation earlier than the fifteenth century in the Latin manuscripts. Among such works was the tract or epistle, addressed to Damagetus "On the folly of Democritus," printed [at Augsburg, in 1500];[285] also the collection of fifteen letters ascribed to Hippocrates, and translated from Greek into Latin by Rinuccio of Arezzo. Rinuccio who was lecturer at the university of Rome and papal secretary, dedicated his translation to pope Nicholas V.[286] The collection of letters was printed with those of Diogenes Cynicus, and works of other

[281] A. Calderini, "Intorno alla Biblioteca e alla cultura greca del Filelfo," *Studi italiani*, Firenze, 1913, vol. 20, p. 325, no. 88; 326, note, ff. The two works are cited in a list probably an autograph of the works of Filelfo preserved in the Archivio di Stato, at Milan, cf. *loc. cit.*, p. 213; Diels 1905, p. 22, listing Paris BN 7023, A. D., 1444, no. 1; 7063, 15th cent., no. 2; also Cambridge Univ. library 1497 (Gg. III. 32), A. D. 1444, fols. 207-24, De flatibus et de passionibus; and other MSS.

[282] Diels 1905, p. 22. Both translations were printed in parallel columns by Axel Nelson, at Uppsala, 1909.

[283] Littré, vol. 6, pp. 88 ff.; Hippocrates with English translation by Jones, Loeb classical library, vol. 2, pp. 221-253; see especially p. 233, cap. v, ff.

[284] Littré, vol. 6, pp. 206 ff.; Diels 1905, p. 23; Kühn vol. 21, p. cxxvii, listing MSS. BN 7023, A. D. 1444; and 7063.

[285] Thorndike and Kibre, "More incipits," *Speculum*, 1942, vol. 17, p. 361, col. 2; Klebs 522.1; Diels 1905, p. 38, listing several 15th cent. MSS. in the translation of Rinuccio.

[286] G. Voigt, *Die Wiederbelebung des classischen Alterthums*, Berlin, 3rd. ed., 1893, vol. 2, pp. 84, 190; Diels 1905, p. 38, listing 27 letters with their Greek titles; W. von Christ, *Geschichte d. Griechischen Litteratur*, 1920, vol. 7, pt. 2, no. 1, pp. 484-85. A Greek codex containing the *Epistolae* of Hippocrates and Democritus, together with the *Mechanica* of Aristotle and other works, was in the library of Pico della Mirandola (P. Kibre, 1936, p. 200, item 600).

classical authors, and is in all probability the same as the collection of letters, brought back by Rinuccio from his trip to the east in 1423, noted earlier.[237] These letters which are different from the *Epistolae* current under Hippocrates' name during the earlier middle ages, begin with that of king Artaxerxes to Paetus asking for aid in the pestilence then ravaging his army.[238] There follows the reply of Paetus suggesting the name of Hippocrates, with a report on him; the unsuccessful appeal to Hippocrates, and the latter's address to the Senate and people of Abdera; then the letters between king Artaxerxes and his lieutenants, threatening the inhabitants of Cos with punishment because of Hippocrates' refusal; the defiant reply of Cos, and the letters between Abdera and Hippocrates.[239]

Also printed for the first time by the incunabula presses, without previous existence before the fifteenth century, in Latin manuscripts, were the Latin texts of two brief fragments entitled *Demonstratio quod artes sunt*, and *Invectiva in obstretatores medicinae*, both from the Hippocratic tract, *De arte*.[240] In these two selections which were printed with the *De natura hominis* and other brief tracts, translated by Andreas Brentius from the Greek,[241] the author endeavors to demonstrate that there is an art of medicine; and combats the arguments of those who deny it and who contend that healing is due not to the medical art but to chance or fortune.[242]

Another tract frequently printed in the fifteenth century, although it appears not to have been found previously in Latin manuscripts was the *De insomniis*, relating to dreams, and in part also to diet.[243] Littré identified the *De insomniis* as the fourth book of the *Regimen*, of which the principle object is to set forth the idea that health depends on the right relation

[237] See above; also R. Sabbadini, *Le scoperte dei codici*, 1905, p. 49; Appendix a, p. 69; Klebs 337.1-2; Littré IX, 310-11, listing other editions.

[238] Florence, Laurent. Plut. LIV. Cod. 17, 15th cent., fols. 51-(79), first letter beginning: "Rex regum magnus Artaxerxes . . ." and another copy with the first letter missing in Laurent. Plut. LXXXX. Sup. Cod. 36, 15th cent., fol. 16v ff. (Bandini, vol. 2, p. 657; vol. 3, p. 518). See Robert Philippson, "Verfasser und Abfassungszeit der sogenanten Hippokratesbrief," *Rheinisches Museum für Philologie*, 1928, vol. 77, pp. 292-328.

[239] Littré, vol. 9, pp. 312 ff.; Kühn, vol. 23, pp. 769 ff.

[240] Littré VI, 2, *De arte*, paragraphs 2, and 1 respectively.

[241] Klebs 519. 1-3; Littré, vol. 6, p. 1, listing editions of the 16th century and after.

[242] *Ibid.*, vol. 6, pp. 1 ff.; Hippocrates with an English translation by W. H. S. Jones, Loeb classical library, vol. 2, pp. 186 ff.

[243] Littré, vol. 6, pp. 638 ff.; Thorndike and Kibre, *Catalogue of incipits*, col. 253; Diels 1905, p. 26, does, however, list a 15th cent. MS. at Paris, BN 7337. See also Hippocrates, translated by Jones, Loeb classical library, vol. 4, pp. lii, 421, 423, Book IV, Regimen. Cf. also S. Ayscough, *Catalogue*, 1782, p. 558, Sloane 2820, 7.

between food and exercise.[244] The first book of the *Regimen* was concerned with the primordial composition of living bodies, age, sex, and health of body and mind; the second with the effects of places, winds, foods, drinks, and exercise; the third enumerated the signs which indicate the disproportion between foods and exercise, and the imminence of disease; while the fourth corresponding to the *De insomniis*, examines the significance of dreams for the prediction of pathological disorders that are about to occur in the body.[245] According to W. H. S. Jones, this work "contains the first occurrence in classical literature . . . of a supposed connection between the heavenly bodies and the fates of individual human lives. The connection, indeed, is not clearly defined; we are not told that these bodies actually interfere with the course of events. But it is definitely stated that to dream about them, at any rate to see certain dreams in which they behave in certain ways, means health or a risk of illness." [246]

The *De insomniis* was reproduced in Latin translation from the Greek by the humanist Andreas Brentius of Padua, and was printed both separately and with Rasis and Maimonides in incunabula editions.[247] It was also frequently printed in the sixteenth century in the translation by Cornarius and others.[248]

The incunabula editions further included a brief fragment ascribed to Hippocrates on purgatives. This tract, which is believed to be a late addition to the Hippocratic corpus, is extant in several Latin manuscripts under the title *Remedia*, or *Pharmacia*,[249] and is identical with the *De remediis purgantibus* which both Littré and Choulant erroneously affirmed was not published until the early seventeenth century.[250] It is found in a

[244] Littré, vol. 6, p. 462.

[245] Thus in Regimen IV, or Dreams LXXXVI, the author states: "He who has learnt aright about the signs that come in sleep will find that they have an important influence upon all things . . ." (transl. by Jones, Loeb classical library, vol. 4, p. 421); and again "To see the sun, moon, heavens and stars clear and bright, each in the proper order, is good, as it indicates physical health in all its signs, but this condition must be maintained by adhering to the regimen followed at the time . . ." (*loc. cit.*, vol. 4, p. 427, cap. LXXXIX).

[246] *Loc. cit.*, vol. 4, p. lii.

[247] Klebs 517.1; also with Rasis, 1497; 1500; *ibid.*, 826.2-3; and with Maimonides, 1500: *ibid.*, 644.2. See also Kühn, vol. 21, pp. cxliv-cxlv.

[248] Littré, vol. 6, 464-65, lists sixteenth century editions.

[249] Diels, 1905, pp. 48, 49; Thorndike and Kibre, *Catalogue of incipits*, col. 160, listing several 14th cent. MSS. Yet Littré, vol. 1, p. 422, states: "Ce fragment manque également dans presque tous les manuscrits. Je ne sais d'ou il provient." See also Cambridge, Jesus Coll. 46, 15th cent., fol. 173v, de medisinis (Engl.).

[250] Littré, vol. 1, p. 422, where it is said to have been published for the first time by

fourteenth century Vienna manuscript in a Latin translation, designated as " recent " (nove), probably by Nicholas de Reggio who translated other Hippocratic writings in the same codex,[251] and was printed in the fifteenth century with the title, *De pharmaciis* together with the works of Rasis and Maimonides.[252] In the sixteenth century it was printed in the translation by Cornarius together with the *Opera Hippocratici*, as *Liber de medicamentis purgantibus.*[253]

Of the remaining Hippocratic works, both spurious and authentic, which appear to have become known to the Latin west only in the late fifteenth or early sixteenth century as the result of humanist activity, the tract on " Fleshes " (*De carnibus*), was published in the early sixteenth century;[254] the tracts on " Fractures and Joints," which were brought to Italy by Janus Lascaris, were also not printed until the sixteenth century.[255] Similarly the *De locis in homine*, in the translation by Andreas Brentius, was printed at Paris in 1524.[256] The tracts on " Surgery," on " Instruments of reduction "; on " Anatomy "; on the " Heart "; and the many other works that make up the Hippocratic corpus made their appearance slowly only in the sixteenth century.[257]

It would thus appear that the chief humanistic contributions to the resuscitation of such works as the neglect of Greek studies had closed to the Latin west during the centuries preceding the classical revival of the fifteenth century, did not bear fruitful results until the sixteenth century. Their accomplishments consisted first in the bringing to the west of Greek texts of Hippocratic works both known and unknown earlier, in the latter category particularly the tracts on " Fractures," and " Joints," and possibly those on anatomy, surgery, " Instruments of reduction," and many others, which were not printed, however, until after the second quarter of the sixteenth century; secondly in translating into Latin for the first

Pétau in 1616. Choulant, *Handbuch der Bücherkünde für die ältere Medisin*, Leipzig, 1841, p. 20; Kühn, vol. 21, pp. cxxxviii-cxxxix; vol. 23, p. 855 ff.

[251] Vienna 2328 [Rec. 948], Fol. 1314 A. D. [*sic*], fol. 33v, " Explicit liber Ypocratis de usu farmacorum nove translationis." (Hermann, 1928, vol. 5, pp. 15-16).

[252] With Rasis, *Liber Almansoris*, Milan, 1481, fol. 209r; also in the editions of 1497; and 1500: Klebs 826.1-3; and with Maimonides, *Aphorismi*: Klebs 644.2.

[253] See the edition printed at Basel, 1558, pp. 150-51.

[254] Kühn, vol. 21, p. clv; and cf. Littré, vol. 8, pp. 583 ff.

[255] See above; also Diels 1905, p. 11, listing only Greek texts; Littré, vol. 3, pp. 412-562; vol. 4, pp. 78-327.

[256] Kühn, vol. 21, pp. clii-cliii; Diels 1905, p. 23, with no Latin MSS; Littré, vol. 6, pp. 274 ff.

[257] The entire list is given in Diels 1905.

time and their publication, selections from the *De arte*, the *De flatibus*, *De passionibus*, *De carnibus*, the collection of fifteen or more letters, and the *De insomniis*; and finally the providing of some new humanistic translations directly from the Greek for works previously known in earlier translations from the Greek and from the Arabic. For the most part the works translated for the first time into Latin by the humanists in the fifteenth century can be said to be of only minor importance in the whole corpus of Hippocratic writings; while the more significant works brought to the west for the first time, especially those on surgery, anatomy, and so on, did not become available in Latin editions until the second quarter of the sixteenth century. Their publication in several instances coincided with important contemporary first hand discoveries in anatomical studies and surgery, so that they were to be important more largely for their value as theoretical or comparative historical documents than for their bearing upon the active practice of surgery and medicine.

On the other hand the medieval Hippocratic writings, revered by physician and layman alike, preserved in frequent manuscripts, and printed before 1500 by the incunabula presses, though comprising only a fraction of the works now included in the Hippocratic corpus, had exercised an almost continuous influence on medical theory and practice for nearly a thousand years. The frequency with which these Hippocratic tracts appear in collections of medical writings, in library and manuscript catalogues, from the fifth to the fifteenth century, demonstrates with telling force, the continuity, even though in Latin dress, of the stream of Hippocratic medical teaching throughout the entire medieval period. In these tracts were incorporated the Hippocratic teachings of a general pathology; the humoral theory of medicine; the practical rules for a regimen of health, comprehensible to layman and physician alike, and characterized by simple directions regarding diet and hygienic observances; as well as the doctrine of the close relation between astronomy or astrology and medicine, which every medieval physician came to take for granted.

THE HEBREW-ARAMAIC ELEMENT IN VESALIUS' *TABULAE ANATOMICAE SEX*

A Critical Analysis

MORDECAI ETZIONY

Kol eyvar veeyvar bara ley hakadosh baruch hu bmidah uvmishkal.

(Each and every one member of the body the Holy-One-Blessed-Be-He has created in proportion and balance).

Tikuney Hazohar, 70.

INTRODUCTION

The *Tabulae Sex* of Andreas Vesalius presents to the student of the history of medicine a highly interesting as well as instructive and curious study. One may readily detect at first glance that no less than three different scripts are used in the description of the anatomical structures in the Tables, namely, Latin, Greek, and Hebrew.

The Hebrew script used in the Tabulae is the well known "Kthav Rashi" (the Script of Rashi), a cursive type, which is now no longer in current use. The only exception to this cursive script is in the Second and Third Plates where the two words האורמו and הנכוב are in the usual square-letter type. In order, however, to facilitate the printer's task we shall use throughout this paper the modern printed square-letter type only. Moreover, it should be noted that here under the term "Hebrew" are included the two closely related languages Hebrew and Aramaic, since for the present purpose they may thus be treated indiscriminately without any material bearing upon our study. Another thing worthy of mention is the difficulty arising in connection with the somewhat indistinct print of those written Hebrew characters which resemble each other very closely, and were it not for their presence in *De Corporis Humani Fabrica* (6) in a larger printed type, they would have been still less distinguishable.

However, the most peculiar and indubitably the most difficult problem arises from the fact that Vesalius apparently knew no Hebrew at all, and secondly, that the Arabic terms were transliterated into Hebrew characters. This circumstance calls for a brief explanation.

In the early Middle Ages the Lingua Medica was Arabic or Hebrew. The great masters—Hippocrates, Galen, Avicenna—were then known only in their Arabic and Hebrew rendition. (The Latin translation of

Avicenna made its first appearance in the XIIth C. The Hebrew version of the Canon was rendered by Nathan Hameati of Rome in 1279. Greek did not come in before the XVth C., thus Galen and Hippocrates were first published in the original in 1525, and 1526, respectively). But Arabic was then a "closed book" to the Western World and only the Jews knew it who "thus held the key to medical science." (4)

No wonder then that practically all Arabic terms appear in the Tabulae as well as in the Fabrica in Hebrew transliteration.

That Vesalius did not know Hebrew is well proved by the numerous transpositions, misplacements and inconsistent transliterations in the works just named. Occasionally an Arabic word is given in Hebrew characters, but its Hebrew equivalent is missing. One may mention en passant that the same thing applies to the Greek and Latin terms, thus we have, for example, Os *μετοπον*. The spelling too suffers frequent violations. Thus in the Hebrew transliteration ה (h) and ח (ch), צ (tz) and ז (z), ת (th) and פ (ph) are interchanged. So too in Greek σ and s are misused, as for example, os *σφενοειδησ*. Many such instances will be furnished by the Analysis of the Tabulae below.

As to the method and approach to the material, these will become evident on reading the paper. May it be mentioned, however, that the reference to the origin was given only where the word is rare or has a definite anatomical re-evaluation; the words commonly used in the Hebrew literature up to the present day were not traced to their sources.

It will indeed not be out of place to intimate in this connection that the modern Hebrew medical terminology has been by now largely standardized and, although the old terms that were found in the Talmudic and later literature were retained as far as possible, yet a good many of them were reformed partially or wholly, while ever so many new terms had of course to be invented. This was done and is still taken care of by the Vaad Halashon (Language Committee) of the Hebrew University in Palestine, and as may be seen from the various Hebrew medical journals that appear in Palestine and other countries the Hebrew medical terminology is fairly well stabilized. It would undoubtedly be worth while to undertake a comparative study so as to see the evolutionary and revolutionary changes that took place in the Hebrew medical language since the time of the Talmud or even since the time of the Renaissance, but such a study, highly interesting as it might be, is not our concern at present.

Regarding the Arabic words, which are few in number, only their anatomical meaning and transliteration are given without any further

comment, as they do not enter the scope of our inquiry; they are included solely for the sake of completeness and because they are rendered in Hebrew script.

In the year 1909, when the late Sir William Osler presented the McGill Medical Library with the first Edition (1543) of *De Humani Corporis Fabrica*, he added to it an inspiring note on the occasion, in which it is said:

> . . . There are grave mistakes of omission and of commission, but they appear insignificant in a volume full of such important contributions. . . .

These befitting words of criticism are fully applicable to the very interesting and instructive *Tabulae Anatomicae Sex*.

In fine, the writer of this paper wishes to express a sincere word of thanks to Dr. W. W. Francis, Librarian of the Osler Library, for encouragement and valuable suggestions.

TABULA I

PRAESTANTISSIMO.....DOMINO

IECVR SANGVIFICATIONIS . . . Arabibus verò וורידהשוער varidhascoer appellatur . . . expurgat.[1]

וורידהשוער varidhascoer. Erroneously given and transliterated as one word, but should be two words: וריד השוער varid hashoer. Literally וריד means descending (vein), its root being ירד yarod, descend; pl. ורידין vridin. Name given to any large vein, particularly to the jugular vein, since it descends from the head to the heart. השוער hashoer means literally the gate keeper, its root being שער shaar, gate; Latin—porta. Thus וריד השוער means portal vein.

For וריד see: Talmud—Hullin, II, 1; Tosefta ib. II; Zbahin 25a sq.; Brachoth 85; Sanhedrin 96a, etc. (3).

TABULA II

VENAE CAVAE, IECORARIAE . . .

VENAE CAVAE, IECORARIAE . . . האורטי HANABVB . . .

האורטי HANABVB.[2] Erroneously placed here, its supposed transliteration however is in place. It should come in the heading of Tabula III, in place of הנבוב hanavuv, the latter belonging here.

[1] The ascription of this term to the Arabs, as well as the various transliterations and transpositions of the Hebrew-Aramaic and Arabic words in the Tabulae Sex warrant one's assertion that Vesalius had no knowledge of these kindred languages.

[2] See Table III—ARTERIA MAGNA.

Literally האורטי means the Aortic (artery), an adjectival form, a direct adaptation from the Greek AOPTH and accordingly should be האאורטי haaorti.

The characters of the word are, as already mentioned in the Introduction, of the printed square-letter type, while all other words elsewhere, excepting the first word in Table III, are given in the cursive type.

TABULA III

ARTERIA MAGNA, AOPTH . . .

1. ARTERIA MAGNA, AOPTH, הנבוב HAORTI . . .

הנבוב HAORTI.[8] Erroneously placed here, its supposed transliteration however is in place. It should come in heading of Tabula II, in place of האורטי haorti, the latter belonging here. The more correct transliteration would be hanavuv.

Literally הנבוב means the hollowed (vein), Latin—Cava, its root being נבב navov, hollow, Biblical Hebrew. Compare ביב biv, canal, pipe.

The characters of the word are again in the printed square-letter type as in Table II.

For נבוב see: Talmud—Baba Bathra 12b. (3)

2. E Arteriae καροτιδες . . .

הנרדמים hanirdamim. Literally הנרדמים hanirdamim means the benumbed (pl.), the sleeping (ones), its root being רדם radom, sleep. The word ordinarily used in Hebrew was apparently chosen by the ancient Hebrew physicians as a direct translation of the Greek καροτιδες, καρος meaning deep sleep.

TABULA IV

HVMANI CORPORIS OSSA . . .

1. Ὀδόντες, dentes, שיניים scinaim . . .

שיניים scinaim. Correctly given as the equivalent of dentes, teeth, its singular being שן sheyn, tooth. שיניים is generally spelled שנים the proper pronunciation being shinayim.

2. *Ibid.*

מחתכים mechathchim. Correctly given to mean incisorii, incisors. Literally מחתכים means cutters, sing. מחתך mchatech, cutter, its root being חתך chatoch, cut.

[8] See Table II—VENAE CAVAE.

3. *Ibid.*

כלביים calbym. Correctly given to mean canini, canine. Literally כלביים calbiim means canine, adjective plural, the singular being כלבי kalbi, and its root כלב kelev, dog. In the "Fabrica" the transliteration of this term is different and given with its synonym כלביים או מתלעות chelauijm aut metalehoth (p. 167 G.), which should be pronounced kalbiim oh mthaleoth מתלעות, however, is given in the Hebrew Dictionary as synonymous with מוחנים (See term 4).

4. *Ibid.*

מוחנים thochnim. Correctly given as the equivalent of molares, maxillares. Literally מוחנים means grinders, masculine plural, pronounced more correctly tochanim (short ă). In the *Fabrica* (p. 167 G.) this term is given grammatically more correctly: מוחנות tochanoth, plural feminine, since שן sheyn, tooth, is a fem. noun. The transliteration of מוחנות should be tochanoth. For the very same reason the terms 2 and 3—מחתכים mchathchim and כלביים kalbiim—should also be "femininized" into מחתכות mchathchoth and כלביות kalbioth, respectively.

5. B Clauicula . . . Furcula . . .

תרקוה tharkuha. Hebrew transliteration of the Arabic word Al-tarquwah, meaning clavicle, Schlüsselbein (Hyrtl, p. 124) (2). Jastrow (3) (p. 1240), however, quotes numerous examples of the Aramaic פרקולא or פרקולה parkula or farkula, its meaning being the same as tarquwah, furcula, fork. Thus the homology of parkula, furcula and tharkuha is striking and needs no further comment.

6. C Ακρώμιον Rostrum porcinum.

אלזגם חרטם alzegam charton. אלזגם alzegam structurally appears to be an Arabic term, but I have found no reference to it anywhere. One would be inclined, however, to relate the term to אלשכם alsechem, alshechem, or על שכם al shechem, meaning in Hebrew, on the shoulder.

חרטם charton. Proper transliteration is chartom. Literally it means beak and is an ordinary Hebrew term. Probably so called because of its resemblance to a beak.

Thus together the above two terms would mean the beak or tip on (of) the shoulder. However, a better expression would be חרטם על שכם chartom al shechem, or better still—חרטם השכם chartom hashechem, the beak of the shoulder (scapula).

7. D Processus scapulae interior . . . Oculus scapulae.

עין הכתף ayn hacatheph. Proper transliteration eyn hacatheph. Literally עין aiin means eye. הכתף hacatheph, the shoulder, the shoulder-joint. Thus עין הכתף is identical with Oculus scapulae.

8. E Pectoris os . . .

החזה hechaseh. Literally החזה means the chest, pronounced more correctly hechazeh; here thorax. The term thus used is incomplete, it should be עצם החזה etzem hechazeh, the bone of the chest, Pectoris os. In the "Fabrica" (6) (p. 167) the full term is given.

9. F. Cartilago ξιφοειδής . . .

אלחנגרי alchangri. An Arabic term in Hebrew transliteration, its meaning being dagger, here xiphoid process. (Term used by Avicenna.)

10. G Βραχών, brachium . . .

זרוע zeroach. Proper transliteration zroah. Literally means arm; also used to designate arm and forearm.

For זרוע see: Talmud—Oholoth I, 8, etc.

11. K Cubitus . . . vlna . . .

הקנה hakaneh. Literally means the reed, the stick, or anything resembling these. Hence קנה kaneh is used to designate: (1) The windpipe (Talmud, Hullin 21b); (2) Humerus in: קנה הזרוע kneh hazroah, the "stick" of the arm—(*Fabrica*, p. 168, line 2); (3) Any of the bones of the forearm or the leg—(K below; Tabula V, R; "Fabrica").

12. *Ibid.*

זינאד עליון zenaud elion. Better transliteration zienad elion. זינאד zienad is a transliteration of the Arabic Zend, used for any of the bones of the forearm. For details of derivation, grammatical construction, etc., see: Hyrtl (2) (pp. 68-69). עליון elion means upper. Hence upper bone of the forearm. Why the ulna should be regarded as the "upper" bone of the forearm is strange unless we take the position of the right forearm as given in Tabula IV and assume the term "upper" to mean rather anterior-superior.

13. L Radius . . .

זינאד תחתון zenad thachthon. זינאד zenad, more correctly zienad. See term 12. תחתון thachthon, a Hebrew word; literally it means inferior, lower. Cf. term 12.

14. N Brachiale, καρπὸς . . .

רסג reseg. As such has no meaning in Hebrew, but is philologically identical with רסק resek since the letters ג g and ק k are interchangeable; the root of רסק resek is רסק rasok, break into pieces. Hence רסג or רסק is a collective term for the bony pieces, the carpals.

15. O μετακάρπιον . . . palma . . .

מסרק masrek. Literally means comb, since the bones of the palm resemble in their conjoined formation a comb. Term applied to all metacarpals collectively.

16. P Δάκτυλοι, digiti . . .

תועבצא esbaoth. A complete transposition of letters; should be—אצבעות and pronounced properly etzbaoth, plural of אצבע etzba, finger. In the *Fabrica* the order of the letters is given correctly (p. 168), it is therefore a misplacement of letters in the Roman manner of writing from left to right.

17. Q . . . patella . . .

מגן הארכובה magen harcubach. מגן magen literally means shield. הארכובה more properly transliterated haarkuvah, means the joint, the knee and its surrounding parts. Hence מגן הארכובה means the shield of the knee, of the knee-joint.

For ארכובה see: Talmud—Hullin IV, 6; Niddah 30 b; Kilayim VII, 1, etc.

18. R . . . talus . . .

קרסול karsul. Means ankle-joint, ankle, here talus. Also found as קורסל kurseyl.

19. S Nauiforme, σκαφοειδὲς . . .

צורקי zorki. Pronounced more properly tzorki or tzurki. The term has no meaning unless changed to בורני burni, its translation then being light and fast-sailing vessel, and would then correspond to naviforme. However, this change may be too far fetched and therefore perhaps not justified.

For בורני see: Talmud—Yoma 77 b; Rosh Hashanah 23a, etc.

20. T τάρσοι . . . Raseta pedis . . .

רסג reseg. See the explanation of term 14 which is here applied to the tarsal bones.

21. T . . . κυβοειδές, tesserae os . . .

מרדיי thardij. Better transliteration tardey. Not found as a noun, its root, however, is מרד tarod, drip, shake, stir (Cf. Latin: tessera); therefore would mean here, dice one shakes at play, bones like dice.

22. V Planta . . .

מסרק masrek. The explanation of term 15 as applied to the metacarpals is equally applicable to the metatarsals.

TABULA V

LATERALIS . . . DESIGNATIO

1. Ossa κρανίου, calvaria, capitis ossis . . .

קדרות המוח kadroth hamuach. Proper transliteration—kderoth or kidroth hamoach. קדרות kderoth, literally, pots, bowls, pl. of קדרה kderah. המוח

hamoach, literally, the brain. קדרות המוח the bones of the brain, of the cranium; when קדרה is used in the singular it means the skull.

For both singular and plural, see: Talmud—Hullin 45a.

2. C Os *μετώπου*, frontis . . .

עצם המצח etzem hametzah. Better transliteration—etzem hametzach. Literally עצם etzem means bone; המצח hametzach, forehead. עצם המצח, the bone of the forehead.

3. D Os . . . occipitis . . .

עור or עזר[4] oreph. As such has no meaning in this connection, the last letter ף ph apparently having been omitted. Should be עורף oreph, as correctly indicated by transliteration, meaning back of the body, especially back of the head or neck. Moreover, half of the term, עצם etzem, bone, has been omitted. Thus עצם העורף etzem haoreph, os occipitis, is the full term.

4. E Ossa *ζυγώματα* iugalia, . . .

זוג zog. The correct transliteration would be zug, meaning a pair. Probably it is so called because quite incidentally (?) the term coincides with the root of the Greek term *ζυγώμα*, a yoke.

5. F Os *σφενοειδής* . . . basilare . . .

מושב המוח moschab hamoach. מושב more correctly pronounced moshav, means literally seat; המוח hamoach means the brain. Thus מושב המוח means the seat of the brain (referring to the bone on which the brain rests).

6. K Costae . . .

צלעות tzelaoth. Better transliteration, tzlaoth. Literally צלעות means ribs, singular being צלע tzeyla.

7. L ossa validissima . . .

גב הערוה gaf herua. Proper transliteration, gav ha-ervah. גב gav, literally means back, exterior-posterior or upper part of a thing. הערוה ha-ervah, literally shame, genitalia. Hence גב הערוה means the upper exterior (bony) part of the genital organ, i. e. the ilium. Hyrtl (2) has it in plural—גבי הערוה gabey ha-ervah and translates it Seiten der Scham.

8. L Superne *λαγόνων*, ilium ossa . . .

אלזרגפא alzar gepha. Term given as one word, but is transliterated as two words. Treated as one word the term is incomprehensible. If, however, regarded according to transliteration as two words the term is somewhat more discernible.

[4] On account of poor print the letter in the middle of the term is not clear. However, it is most likely עור.

אלזר alzar is certainly not Hebrew. It sounds Arabic, but I find no meaning for it. גפא gepha—more correctly pronounced gapa, meaning in Aramaic wing, the equivalent of the Hebrew גב gav. Now, being guided by the figure of Table V one would accordingly tend to apply the term גפא to the wing-like iliac crest designated in the illustration by M which reference letter is omitted from the text.

9. *Ibid.*

עצם הירך ezem haiarech. עצם ezem; better pronounced etzem. Literally means bone. הירך haiarech literally means the thigh, the femur. עצם הירך signifies therefore the bone of the thigh or femur. The text seems to make it the equivalent of "ad foemoris ingressum," which suggests the acetabulum.

See: קולית kulith, Graz. (1) (p. 397) and Midrash Harfuah (8) (p. 10); also term 14 in Table VI. Hyrtl (2) (p. 129) calls it Os ischii.

10. *Ibid.*

אלמאינא caph haiarech. There is a curious confusion here. The word אלמאינא altaiga, which transliteration is missing here, appears to be Arabic (?). Instead, caph haiarech is given with the supposed Hebrew equivalent, whereas altaiga occurs two lines below in the text as an equivalent of the synchondrosis of the pubis. Vesalius' transliteration "caph haiarech" corresponds to the Hebrew term כף הירך which is omitted here.

Also the following word Althauorat sounds Arabic, but is again unknown to the Arabic scholar whom I consulted. We shall therefore concern ourselves with the absent כף הירך the transliteration of which is given in the text.

כף caph literally means spoon, palm (when the hand), sole (when the foot); something concave. הירך the thigh, the femur. כף הירך caph haiarech—in one place (Genesis 32, 26—Hebrew Bible) it apparently means the head of the femur, although the English Bible translates it almost as rightly "the hollow of the thigh," the acetabulum, and so also do Graz. and Yel. (1) (p. 178). See term 9.

11. Q Tibia . . .

עצמות השוק ahtzmoth hascek. The correct transliteration would be atzmoth hashok. עצמות atzmoth literally means the bones of, the sing. being עצם etzem, bone. השוק hashok means the calf, or leg. עצמות השוק accordingly would be the bones of the leg, i. e., the tibia and fibula.

12. *Ibid.*

קנה גדול cane gadol. קנה cane, properly pronounced kaneh, means reed, stick, reed-like, stick-like; cf. Table IV, term 11. גדול gadol means large. קנה גדול means therefore: large "stick," i. e., tibia. Cf. term 13, below.

13. R Fibula . . .

קנה קמן caue katon. קנה caue should be kaneh; see term 12, above. קמן katon or katan, small. קנה קמן means small "stick," i. e., fibula.

14. S. T Malleoli . . .

ארכובות arcuboth. More properly pronounced arcuvoth, plural of ארכובה arkuvah, meaning knee; knee with its surrounding parts; parts of the knee. Here strangely enough used to designate Malleoli. Probably because ארכובה is derived from רכב rachov, to ride, the malleoli "riding" on the talus.

For רכב see: Talmud—Hullin IV, 6; ib. 76a.

15. V . . . calcis os

עקב aekef. Correct pronunciation eykev or akeyv, heel; its root being עקב akov, (to) curve, bend; may also mean sole. Here—the bone of the heel, os calcis, is designated.

TABULA VI

ΣΚΕΛΕΤΟΝ A TERGO DELINEATVM

1. Naturalis capitis . . . suturæ . . .

מחוברים mechubarim. Literally it means the joined ones, sutured, plural participle passive, its root being: חבר chabor—join, suture. Term thus does not refer to the sutures, but to the bones sutured. The sutures themselves should be called מחברים mchabrim, those making junction.

2. A Per cinciput . . . coronalis . . .

כתרי cethari. Properly pronounced kthari, being probably an adjectival form of כתר kether, crown, Latin corona, here meaning: coronal. This term however is ordinarily not found in this adjectival form. The correct translation of "coronalis" would be מחבר הכתר mchaber hakether, the suture of the crown.

3. B Per occiput, à litteræ Λ figura λαμβδοειδὴς . . .

חתית hateth. Literally it means Teth, the name of the Hebrew letter ט t. How the occipital part of this suture resembles ט is incomprehensible, unless a reversed Latin T is implied.

4. C A medio . . . Sagitalis . . .

חחץ hatchets. Literally means the arrow and corresponds to the Latin sagitta.

5. D Ad tempora . . . temporales . . .

שחוסי schechusi. More properly pronounced shchusi; שחוס shchus is the same as סחוס schus, literally meaning cartilage. The form given here is an adjective: cartilage-like, perhaps from its being thin and therefore weak as cartilage (?).

6. F Scapula . . .

כתף cathep. Proper transliteration catheph. Literally means shoulder, here shoulder-blade, scapula.

7. G . . . spina dorsi . . .

שדרה schedra. Better pronunciation shidrah or shdeyrah. Literally means row, and in anatomy always used to designate spina dorsi.

8. *Ibid* . . . vertebris . . .

חוליות chulioth. Plural of חוליה chuliah, vertebra; its other ordinary meanings being link, loose part, etc.

For חוליות See: Talmud—Bkhoroth VI, 5: Hullin 52a, etc.

9. *Ibid.*

מגרון megaron. Better transliterated migaron. Somehow it also sounds Arabic, but I could not identify it as such. In Hebrew מגרון consists of the prefix מ mi, from, and גרון garon, throat, neck. Hence מגרון means from the neck. It would however be more correct Hebrew if it were הגרון hagaron, which in conjunction with the preceding term would mean of the neck, genitive form, corresponding to the Latin colli. Moreover, garon really means throat and not neck, the latter being צואר tzavar.

10. *Ibid* . . . dorsi . . . thoracis . . .

חגב hagab. More correctly pronounced hagav. It means back (of thorax), dorsum.

11. *Ibid* . . . lumborum . . .

העצה heatze. עצה means lower part of spine, its root being עצה atzoh, close or end.

For העצה See: Yalkut Leviticus, 462.

12. H . . . sacrum . . .

אלעגז alagas. This term, although in Hebrew characters, is definitely Arabic both in its meaning and transliteration. Alagas means buttock, here sacrum.

13. I Coccygis . . .

חקמון hakaton. Also חקמן hakatan. Literally means the small (one), mas-

culine gender singular, thus characterizing the coccyx as a structural unit of bones like העצה (term 11). However if regarded as a single vertebra, חוליה chuliah, this Hebrew term used with it would be החוליה הקמנה hachuliah haktanah, since חוליה is a feminine noun.

14. K Μυρών, femur . . . os coxæ:

פחד הירך pachad haiarech. In Hyrtl (2) wrongly quoted from Vesalius as פחר הירך pechar hajarekh (p. 154).

A very difficult term to understand.

פחד pachad literally means fear. ירך yareych means thigh or femur. Thus the two words together literally mean the fear of the femur, which is not plausible.

In view of the difficulty created by the word פחד pachad it seems reasonable that here it is a homologue of the word פחת pachath, since the letters ד d and ת th are interchangeable in Hebrew. Now, since פחת pachath means pit, cavity, and ירך iarech—thigh, femur, it seems that the most probable meaning of these two words in question is: the cavity of the thigh or the acetabulum. This, however, does not correspond to the term os coxae, the part designated K, which is the femur. Cf. analysis, Table V, 9.

REFERENCES

1. Grazovsky, Yehudah Vdavid Yelin, *Hamilon Haivri*, Yaffo, 1919. (Heb.)
2. Hyrtl, Dr. Joseph, *Das Arabische und Hebraische in der Anatomie*, Vienna, 1879.
3. Jastrow, Marcus, *A Dictionary of the Targumim, the Talmud Babli and Yerushalmi and the Midrashic Literature*, Berlin and New York, Verlag "Choreb," 1926.
4. *Jewish Encyclopedia*, vol. VIII, 1925.
5. Perlman, Moshe, *Midrash Harfuah*, Tel Aviv, "Dvir," 1926. (Heb.)
6. Vesalius, Andreas, *De Humani Corporis Fabrica*, Basel, 1543, pp. 166-168.
7. Vesalius, Andreas, *Tabulae Anatomicae Sex*. Six Anatomical Tables: 1538. London; priv. pr. for Sir W. Sterling-Maxwell, 1874.

TEXTS AND DOCUMENTS

"MEDICAL CONSULTATION ON THE CASE OF DANIEL VANSLYKE.

By C. S. Rafinesque, Pulmist &c.

Philadelphia 10th Sept^R 1830."

Edited by MABEL CLARE WEAKS*

Four years before his death in 1840 at the age of fifty-seven years, Constantine Samuel Rafinesque published *A Life of Travels and Researches in North America and South Europe, or Outlines of The Life, Travels and Researches of C. S. Rafinesque, A. M., Ph. D., Professor of historical and natural sciences, member of many learned Societies in Europe and America, author of many works, &c.* . . . (Philadelphia, 1836).[1] The next to the last paragraph reads as follows: "Versatility of talents and of professions, is not uncommon in America; but those which I have exhibited in these few pages, may appear to exceed belief: and yet it is a positive fact that in knowledge I have been a Botanist, Naturalist, Geologist, Geographer, Historian, Poet, Philosopher, Philologist, Economist, Philanthropist. . . . By profession a Traveller, Merchant, Manufacturer, Collector, Improver, Professor, Teacher, Surveyor, Draftsman, Architect, Engineer, Pulmist, Author, Editor, Bookseller, Librarian, Secretary . . . and I hardly know myself what I may not become as yet: since whenever I apply myself to any thing, *which I like*, I never fail to succeed if depending on me alone, unless impeded and prevented by lack of means, or the hostility of the foes of mankind."[2]

It is as a Pulmist, or specialist in the treatment of the diseases of the lungs, that Rafinesque is to be considered here. He was not a physician

* The editor is an assistant in the Manuscript Division of The New York Public Library. She is the granddaughter of Dr. Joseph Franklin Alsup, M. D., University of Nashville, 1856; and the sister of Dr. P. Earl Weaks, M. D., University of Louisville, 1909.

[1] See also new edition of this work, *A Life of Travels.* . . . (Waltham, Mass., The Chronica Botanica Co., 1944) [*Chronica Botanica*, Vol. 8, No. 2].

[2] The great diversity of the subjects of Rafinesque's published papers is discussed by Elmer Drew Merrill in "A Generally Overlooked Rafinesque Paper," *American Philosophical Society Proceedings*, Vol. 86, No. 1, pp. 72-90. September 25, 1942. See also Bernard Jaffe, *Men of Science in America The Role of Science in the Growth of our Country* (New York, 1944) and Huntley Dupre, *Rafinesque in Lexington, 1819-1826* (Lexington, 1945) for accounts of Rafinesque's manifold activities.

and did not have an M. D. degree according to his own statement.[3] However he had skill in medical botany. As early as 1809 he had travelled as a "Botanical Physician" on his visit to Mount Etna in the summer of that year, and had manufactured and sold drugs during his residence in Sicily from 1805 to 1815. While serving as Professor of Botany and Natural History at Transylvania University, Lexington, Kentucky, from 1819 to 1826 he gave courses in medical botany in the Medical School of the university. His *Medical Flora; or, Manual of the Medical Botany of the United States of North America* (2 vols. Philadelphia, 1828-1830) affords evidence of his knowledge of the subject.

Following his return to Philadelphia from Kentucky in 1826 and the loss of his economic security, his health was impaired by an attack of "catarrhal and dyspepsic consumption." He found no hope in the medical works that he consulted, and turned to his knowledge of medical botany for the treatment of himself. This resulted in the preparation of Pulmel as a remedy whereby he claimed to have restored himself to "perfect health and a sound constitution."

He writes: "Having cured myself completely in 1828 of my chronic complaint, which was the fatal Phthisis,[4] caused by my disappointments, fatigues, and the unsteady climate; which my knowledge in medical botany enabled me to subdue and effect a radical cure; I entered into arrangements for establishing a Chemical manufacture of vegetable remedies against the different kinds of Consumption. This succeeded well. I introduced also a new branch of medical knowledge and art. I became a Pulmist, who attended only to diseases of the lungs as a Dentist attends only to the teeth. Being thus the first Pulmist, and perhaps the only one here or elsewhere. This new Profession changed my business for awhile; yet enabling me to travel again in search of plants or to spread my practice, and to put my collections in better order, publishing many pamphlets, &c."[5]

The "discovery" of Pulmel was brought to the attention of the public in the autumn of 1827. On November 24th of that year, Rafinesque contributed, over the signature of "Medicus," one of a series of articles to *The Saturday Evening Post* entitled "Cheering News for those who have the Consumption."[6] Therein he announced that "speedy relief has

[3] Constantine S. Rafinesque, *A Life of Travels* . . . p. 65.

[4] The fact that Rafinesque died of cancer in 1840, after a decade of great activity, is evidence that he succeeded at least in arresting the disease.

[5] Constantine S. Rafinesque, *A Life of Travels* . . . p. 87.

[6] The editor is grateful to Transylvania College, Lexington, Kentucky, for supplying

already followed the use of the Pulmel in several cases" and recommended it earnestly to the attention of medical practitioners. He also stated that the Pulmel *did not* contain "Digitalis, Sanguinaria, Lobelia, Arsenic, and Prussiate which are either rank poisons or mere palliatives."

In the next article, "Cummunication on the Pulmel," *The Saturday Evening Post*, December 29, 1827, he wrote: "The active principle [of the Pulmel] is the *Pulmelin*, a chemical compound of several vegetable, saline, and alkaline principles. . . ."

These articles were followed by others during the first half of the year 1828 in which he gave case histories of patients who were benefitted and even "cured" by the Pulmel and enumerated sixty causes of consumption. In the article, "Consumption No. 1," *The Saturday Eveing Post*, March 22, 1828, he wrote that ". . . a pamphlet is preparing where all the kinds of Consumptions will be properly distinguished and designated."

The pamphlet is entitled *The Pulmist; or, Introduction to the art of curing and preventing the Consumption or Chronic Phthisis. A medical essay, including a new and better distinction of its causes, kinds, remedies, diets, and other peculiarities.* By Prof. Rafinesque, Ph. D. & Pulmist. Philadelphia: Printed for the author, By C. Alexander, 112 Chestnut St. 1829.

On the back cover of *The Pulmist* . . . appears the following

Notice to the Public. Professor Rafinesque, Author of the Art to Cure the Consumption, Will continue to practice as a Pulmist, in Philadelphia and elsewhere; confining himself solely and exclusively to the Diseases of the Lungs, and chiefly the Chronic Consumptions.

Consultations in writing will be furnished upon a medical or proper statement of each case: the determination of the peculiar kind and stage of the disease; with ample directions on the course of remedies and diet to be followed accordingly, will be included in such written consultations. Terms $10.

Statements from a distance, enclosing a remittance of $10. will be immediately attended to, and the consultation sent by mail, with the work gratis.

* * * * * *

A "consultation in writing" which was prepared by Rafinesque for Daniel Van Slyke, a civil engineer employed by the Chesapeake and Ohio Canal Company at Georgetown, D. C., was presented to the Manuscript Division of The New York Public Library in 1941 by Mrs. Laura Collins

her with transcripts of Rafinesque's contributions to *The Saturday Evening Post* on the subject of consumption or tuberculosis.

of New York City, a descendant of Daniel Van Slyke. It is in the handwriting of Rafinesque, and is written on four pages of paper, 16¾ x 10½ inches in size. It is accompanied by a covering letter from Rafinesque to Van Slyke, dated September 12, 1830.[7]

This "consultation" shows that the treatment recommended by by Rafinesque was in advance of his period. While his famous contemporary, Dr. Pierre Charles Alexandre Louis[8] of Paris, France, was treating phthisis or consumption by venesection, blistering and the application of leeches, Rafinesque discouraged blood-letting; advised the building up of the general health and the making of pure blood by a good diet, including milk, fruit, and green vegetables; avoidance of poisons and spirituous liquors; proper elimination; outdoor life; and exercise on horseback. He said nothing of rest which was not generally accepted as a method of treatment until the end of the nineteenth century, that is in the form of absolute bed rest as it is known today. But he mentioned fatigue as one of the causes of his own case of consumption. His insistence that the disease was curable, at a time when it was deemed incurable by most physicians, was most important. His "last rule of cure" was "*to employ a physician who believes that the disease is curable.*"[9]

Philadelphia 12th Sept[r] 1830

Mr D Vanslyke[10]

Georgetown D. C.

Dear Sir—Yours of the 6th was only rec'd on the 9th with the $10 inclosed. You will find herewith my Consultation which has taken two days to write. I expect to hear from you frequently as you promise. In

[7] Another letter from Rafinesque to Van Slyke is thought to have survived. It will be placed in the New York Public Library if Mrs. Collins is able to locate it.

[8] Pierre C. A. Louis, *Pathological Researches on Phthisis. Translated from the French . . . by Charles Cowan. Revised and altered by Henry I. Bowditch, M. D.* (Boston, 1836).

[9] Constantine S. Rafinesque, *The Pulmist* . . . p. 59.

Rafinesque acknowledged in his dedication of *The Pulmist* . . . to Dr. E. Lanthois, author of *Théorie Nouvelle de la Phthisis Pulmonaire* . . . that he had improved upon the latter's theory and method even before being acquainted with it, and stated that he had added more certainty to the cure by the discovery and use of many new heroic vegetable substances of this continent.

[10] Daniel Fort Van Slyke, the fifth child of Gerrit Van Slyke and Catharine Wooleben Van Slyke, was born at Manlius, Onondaga County, New York, September 9, 1799. He married Laura Mears, daughter of James Mears, at Florida, Montgomery County, New York, March 10, 1822. With his wife and son he lived at Georgetown, D. C. from about 1824 to 1831 when he bought a home at Orville (now DeWitt), Onondaga County, New York. He died at Orville, December 4, 1831.

your next state whether your expectoration swims or sinks in water, and how is your urine.

If you send me $10 again in your next, I will give you an order for that amt. of Pulmel. You did not answer my proposals as to pay, but presume you mean to be liberal as you promise; I leave then this to you, but request you will send me what you intend in advance gradually, because I never make bills.

I earnestly intreat you to study well your case by my Consultation & Work,[11] and not to deviate from the required precautions. If you do I cannot answer for it, and you may materially injure yourself, while if you follow carefully my plan of cure, I dare to say that you have a fair chance of recovery.

Respectfully yours

C. S. Rafinesque Pulmist

P S Mess[rs] Todd have not written me, I do not know if they have a sufficient supply of Pulmel for you, or if out of some kinds. Please to ask them I presume you will require a good deal of it because your cure must necessarily be rather tedious & long. If they supply you, on my acct. they may perhaps want the article sent again. I wish to know.

Superscription: Mr. D. Vanslyke Postmaster of Potowmac Md in Georgetown Distr. of Columbia

Endorsement : C. Rafinesque Doctor

Note on reverse of letter : This letter was written for the sum of $50.00 and after following the directions &c herein prescribed Mr Van Slyke died in Dec 4th 1831 The consultation availing nothing and Prof R although a very great Botanist & Medical man proved unsuccessfull

Nap. B. Van Slyke [12]

Jordan [New York] Jan 31st 1842

[11] Constantine S. Rafinesque, *The Pulmist*. . . .

[12] Napoleon Bonaparte Van Slyke, only child of Daniel Fort Van Slyke, was born at Half Moon (now Crescent) on the Mohawk River, Saratoga County, New York, December 21, 1822. He settled at Madison, Wisconsin in 1853, and lived there the remainder of his life except for a brief period previous to the War of Secession when he was a manufacturer of lumber in the northern part of Wisconsin. He was president of the First National Bank at Madison, served for twelve years as a regent of the University of Wisconsin, and for forty-four years as a curator of the State Historical Society of Wisconsin. He died at Madison, February 14, 1909 in his eighty-seventh year.

Medical Consultation on the Case of Daniel Vanslyke.
By C. S. Rafinesque, Pulmist &c
Philadelphia 10th Sept^r 1830.

The ample statement sent by the Patient himself of his Case, enables me to decide with some accuracy upon the kind of Disease and treatment required.

His temperament appears to be *Lymphatic-melancholic.*[13] His disease is a mixture of *Hepatic*[14] *Consumption* with *Cachectic*[15] & *Catarrhal*[16] Ditto. There appears to be no mixture of Scrofulous taint, and the disease although of long standing (many years) has only progressed to the verge between the second and third stage, or between the inflammatory and confirmed stages. There is no parental predisposition,[17] no aggravation of symptoms. Therefore I pronounce the Case a plain one, *quite curable, with proper remedies, diet and Care.*

But I must not be misunderstood, although I hold out this hope (which I never do unless I clearly perceive it) yet I pronounce the Case somewhat difficult by the complication of previous diseases, long standing and actual symptoms and I cannot flatter the patient with a speedy cure; nay he ought to be well satisfied if we can prevent the Disease from taking the shape of Confirmed Consumption and keep it back awhile. I cannot say positively how long it will take to perform a radical cure; but I should deem it very lucky if it can be done in one year or less. My practice has convinced me that commonly as long is required to cure, as the disease has been allowed to prey on the system—however this I have chiefly seen in cases of short standing, I cannot say how long it will take to restore a shattered constitution of many years by many diseases.

That the system has been shattered is quite evident. The patient states to have been subject to bilious fevers, in which he has used *Calomel* and *bleeding.* Now I hold the opinion that these two remedies even when

[13] Rafinesque lists twelve temperaments in *The Pulmist* . . . pp. 18-19. The *lymphatic* have a white or pale complexion, thick lips, thin fingers, long neck, narrow chest, are amiable and mild; greatly subject to scrofula and consumption. The *melancholic* are tall, thin, credulous and sad.

[14] Relating to the liver.

[15] Relating to or suffering from cachexia—a general lack of nutrition and wasting occurring in the course of a chronic disease.

[16] Inflamation of the mucous membrane.

[17] This seems to indicate a belief in the transmission of the disease by heredity. Daniel Van Slyke's son attained the age of eighty-six years, having lived with his father for the first nine years of his life, during which time the father was suffering with tuberculosis.

Medical consultations on the Case of
Daniel Van Slyck . Esq. [illegible] Westchester Co
[illegible] 10th Sept 1838

The complaint stated to me by the Patient himself to be a cough
to decide with some accuracy upon the [illegible] of which I required.
His complaint appeared to be Symptomatic with chronic Pleurisy Disease of
portion of Hepatic Viscera [illegible] with Carbonic Consumption
appears to be no portion of Scrofula in it, and the disease although of long
standing (many years) has only progressed to the verge between the Second
Third Stage, or between the inflammatory [illegible] Stages there was previous
tal predisposition, no aggravation of Symptoms [illegible] pursuing the
Case plain One, quite curable, with proper [illegible] Diet &c &c

But I must not be misunderstood with [illegible] this hope (which I
never do unless I clearly perceive it) yet I perceive in the Case existing circumstances
difficult by the complication of pulmonic disease, Liver Stomach [illegible] and
and I cannot flatter the patient with a speedy Cure, nay he ought to be well
satisfied if we can prevent the disease from [illegible] the stage of Confirmed Consumption
[illegible] and keep it back certainly. I cannot say positively how long it will take to
perform a radical Cure but I should [illegible] it very doubtful if it can be done in one
year or less. My practice has convinced me that community as regards the
Cure, as the disease has been altered by the proxy on the System however this I have
chiefly seen in Cases of Short Standing, I cannot say how long it will take to restore
a shattered constitution of many years by [illegible] disease &c.

That the System has been [illegible] is quite evident The patient states he has been
subject to bilious fevers, in which he has received Calomel & Bleeding. Now I hold the
opinion that these have no medicines even when they cure, improve the functions of the
liver, and Stomach & particularly Calomel, and that Bleeding debilitates the System
enabling it on a similar proxy to resist disease, one reason [illegible] difficult to cure.
Although the patient is not aware of this, he must be satisfied that the Calomel has at
least been all expelled since from the body as it was then settled in the Lungs. He
may know it by this token, if he ever feels cramps, with [illegible] in the bones particularly
[illegible] in cold weather, there is Calomel yet in the System, which is not be expelled by
Medicines, Sleeping between blankets &c. The appetite &c is partly the Calomel in part
has unsettled the pain in the Chest, and the Carbonic expectoration, since the bilious
had no predisposition nor Scrofulous taint. He however states very frankly the
first appearance of this disease & recollects from a violent cold & cough, which he
was never well cured. This was then an incipient Catarrhal Consumption in
the first Stage, which might have been easily cured by proper vegetable remedies, but
being neglected, Bilious fevers succeeded with Calomel, have hastened the Carbonic
Symptoms, and the liver has been [illegible], with Hepatic & Abdominal [illegible] from
Animal food in 1833 for 6 months could do little good yet it appears to have helped

they cure, impair the functions of the Liver, and stomach, particularly Calomel, and that bleeding debilitates the system making it an easier prey to new diseases, and render them more difficult to cure. Although the patient is not aware of this, he must be confident that the Calomel has at least been all expelled since from the body, and that none has settled in the Lungs. He may know it by this token, if he ever feels cramps, with pains in the bones particularly in cold weather, there is calomel yet in the system, which must be expelled by sudorifics, sleeping between blankets &c. I apprehend it is partly the Calomel which has unfolded the pains in the chest, and the cachectic expectoration, since the patient had no predisposition, nor scrofulous taint. He however dates very properly the first appearance of his disease 8 years ago from a violent cold & cough, which was never well cured. This was then an Incipient Catarrhal Consumption in the first stage, which might have been easily cured by proper vegetable remedies; but being neglected, Bilious fevers succeeding with Calomel, have produced the cachectic symptoms, and the liver has been impaired, with digestion &c. Abstaining from animal food in 1823 for 6 months could do little good, yet it appears to have helped to eject naturally a quantity of morbid bile. The morbid secretion is still going on and the burning sensation in the Stomach has returned, which indicates the need of antibilious remedies, and perhaps an Emetic to eject the accumulation, if the patient can bear the shock; but to prevent the new formation of this morbid matter or secretion from the liver is important above all, and must be duly attended to along with the remedies for the diseased Lungs.

The Lungs are certainly diseased, inflammed and verge towards a stage of suppuration. Here I must observe that a *material omission* has occurred in the statement. It is not said whether the Expectoration swims or sinks totally or partly in the water. This is the usual test of purulence and suppuration. This must be stated in future. The more or less sinking of the matter evinces how far suppuration has proceeded. Its thickness may be mucose which is good but the greenish color show a morbid state of the Lungs, where the disease has settled as well as in the Stomach.

Costiveness is an usual symptom in the first stages of Consumption, it evinces the internal heat & hectic : it is much better than the diarrhea of the last stages which is one of the worst symptoms. However Bowels ought to be kept in good order as much as possible. Mild purgatives of Sulfur & Rhubarb are the best to open them & clean them, tonics must next strengthen them, and Rice or good diet keep them in good order.

The night sweat is another symptom of internal hectic, but not dangerous, when troublesome they may always be checked by a few drops (10 to 15) of Elixir of vitriol [18] put in the night draught.

The pains in the breast evince that the right lobe of the lungs is chiefly injured as usual. For this besides the internal remedies, friction of Wine of Pulmel,[19] or hot wine with Bark in it, are very good. They must be rubbed in with flannel till a glow is produced. It is perhaps needless to pursue this investigation of the symptoms, and I shall now rather enter upon the needful plan of cure &c.

2d Part. Treatment.

1. It is a very favorable circumstance that the Patient has a profession which enables him to enjoy much the open air and to take a great deal of exercise on horseback.[20] To this I ascribe chiefly the protracted and lingering state of the Disease, which otherwise would have made a much more rapid progress. He must by all means continue this useful exercise, and even walk as much as he can without overheating himself; but he must beware of catching cold in winter while out. It will be well to continue wearing flannel, this produces a gentle perpetual friction on the skin, which keeps the pores open, while it prevents the access of cold air. In addition to this he may if he can wear a piece of Hare or Rabbit skin, the hair inside, suspended by a ribbon from the neck, over the breast & particularly over the part where he feels pain. This is almost equal to a rubefacient in effect, keeping the breast electrified, warm, comfortable and easy, being a complete substitute for a blister, without being painful nor irritating. He must also wear warm clothes, a good cloak, fur cap &c when he goes out in winter, bearing in mind that a cold taken by him, is almost equal to a relapse, and must be avoided by all possible means.

2. Concerning the use of the Pulmel in this case, the Syrup and Chocolate of *Pulmel* are the best preparations for him. Since he cannot take in the day, he must take two full doses or spoonful daily, one in the morning before he goes out, and one in the evening before bed time; this instead of being taken in milk, must be taken in the Evening draught, hereafter specified. The effect of the Pulmel is only felt after 40 or 50 Doses are taken, and it acts very gradually and mildly upon the whole

[18] Aromatic sulphuric acid.

[19] One of the twelve preparations of Pulmel.

[20] Thomas Sydenham (1624-1689) was an ardent believer in the virtues of daily horse-riding as a means of keeping the patient in the "fresh, kindly air." See G. Norman Meachen, *A Short History of Tuberculosis* (London, 1936).

system through the blood to the Lungs and whole system. Its effects are various on different individuals, but it never acts perniciously.[21] Although it is chiefly calculated to heal the Lungs, it heals also the liver and other diseased organs by sympathy or rather by changing the blood circulating thro' them. However in this case as the Liver and Stomach are much vitiated and the Bile is become morbid, I must advise the use of several peculiar auxiliaries calculated to exert a more specific action over them, and chiefly *Eupatorium*, *Sanguinaria* and *Taraxacum* of which I shall now give ample prescriptions.[22]

3. The *Eupatorium perfoliatum* (or Thorough wort or Boneset) is found at the good apothecaries & herbalists, it grows along the Potowmak River. This is a capital Tonic for this special case acting on the Liver & whole system. It must be united with the *Sanguinaria* (or Bloodroot or Puccoon) which is the most powerful remedy of our Country for the Liver &c. You must make yourself or get a Drugist to make for you a compound wine or syrup of it, as you will like best & as follows

Eupator. perfol. ¼ of a lb Sanguinaria 1 ounce both in powder	Infused in Malaga or Lisbon wine 1 gallon or made into a syrup afterwards by adding needful sugar &c.

Of this wine you may take daily 2 doses, or spoonfuls, one in the morng with the Pulmel or after it, the 2d in the evening draught. Of the syrup you may take a larger dose if you like, at the same times, as substitute for the wine.

4. The *Taraxacum* is the common Dandelion, a weed common every where & to be got at all times fresh except in winter. Of this you must have many pounds collected & dry it. As long as you can get it fresh, eat every day a sallad of it, with or without vinegar & salt, at your dinner or meal. When none is to be had fresh, use the dry one, boil it and eat it. If you prefer get the Extract made of it and use it freely diluted in your

[21] Rafinesque described the Pulmel as follows: "It is a peculiar compound substance, formed by the chemical combination of several powerful vegetable principles, acting on the lungs and the whole system. It contains no pernicious nor poisonous substance. The taste and smell are sweet, fragrant, and balsamic." It was first manufactured as a syrup for internal use, and a balsam for inhalation. Later, there were twelve preparations of Pulmel. The component substances were not divulged in *The Pulmist*. . . .

[22] Eupatorium perfoliatum, Sanguinaria Canadensis, and Leontodon Taraxacum were included among the "old favorites" in the treatment for consumption which was prescribed by Dr. William Adair McDowell in his book, *A Demonstration of the Curability of Pulmonary Consumption* (Louisville, 1843). This is said to be the first book on tuberculosis which was published in the west.

drink. This is a capital cleaner of the Liver and Stomach. It may restore your shattered organs.

5. Before all if the constipation continues, take one pinge of a drachm of Sulfur & as much rhubarb to clean the bowels. The Dandelion will afterwards act also as a Laxative. If the burning in the Stomach is great, it will be well to clean it by a mild emetic. Of this you may have the choice either Ipecacuana [23] or Lobelia [24] or Sanguinaria, but although opposed to mineral Remedies I should think that in this case Sulfate of Zinc or White Vitriol (10 to 20 grains in wine) would be the best, because it operates instantly & does not cause long nausea & sickness; but you must be satisfied to be able to bear well the sudden shock, and must take immediately afterwards much milk & veal broth to quiet the stomach.

6. If ever you have another attack of Diarrhea, you must immediately check it by the *Myrica* [25] or Myrtle wax.[26] Scrape the wax in a mortar, mix Sugar in powder with it, and by rubbing it is reduced to powder. Of this powder take a spoonful 4 times a day till checked, and afterwards use the Slippery Elm [27] bark in your milk to prevent the relapse and coat the bowels.

7. You are mistaken in thinking that your Lungs are painful by mere sympathy of the foul stomach. I think that they are diseased also : the Pulmel will cure them. If your cough is troublesome, use occasionally Antimonial lozenges, each having 1/16th of a grain only. Any apothecary can make them with Sugar, gum and Tartar Emetic : here they cost 75 Cts the lb.

8. You have omitted to state how is your Urine, this is important, because the hectic inflames it. I reckon that it must be colored & turbid. Whenever it will become clear and pale, you will be recovered or in a fair way.

9. Anderson's Cough drops I know little about, *Digitalis* (a poison) is however an ingredient, they only lessen the irritability of the system; but are useless as a Cure. By the by please to state the usual state of your pulse and count how many beats in a minute by a watch. I know already very well that you have an internal hectic, the heat of hands, feet &c show it; but it would be well to know how far it goes, and what times

[23] Ipecacuanha is a shrub of Brazil and other parts of South America. It has expectorant, emetic, and antidysenteric properties.

[24] Lobelia is known also as Indian Tobacco, Wild Tobacco, Emetic Weed, Puke Weed, and Asthma Weed.

[25] Sweetgale, Bayberry.

[26] Waxberry, Wax-myrtle.

[27] The Slippery Elm tree has rough, gray, fragrant bark.

are worse, so as to see whether it is needful to prescribe you the Cherry bark or *Lycopus*,[28] both excellent sedatives & tonics.

10. Since you can medicate yourself best in the evening you ought then to take your medicines & draughts twice, say when you come home & when you go to bed. As I suppose you do not take milk the last time, you must then make up a good palatable Night Draught, for instance take two Spoonfuls of Syrup of Lemons or Syrup of Orgeat [29]—one spoonful of Pulmel—one spoonful of *Eupat* & *Sanguinaria* wine, and pour as much water as you like over them. In this you may add the Elixir of Vitriol, or the Tinct. of Iron or any other Remedy you will take at night.

11. If you have never taken Chalybate Waters, nor Tincture of Iron, try them; they are good for shattered & debilitated Constitutions. You may always make Chalybate Water, by dipping *red hot* nails or old Iron into water. This water may be used for your Draughts. But if Iron has a bad effect on you, such as to raise your pulse or heat the Stomach, forbear to use it; but it will be good if it makes the pulse full and the stomach comfortable.

12. You must of course use moderation in every thing. You are a married man & you will understand me. I do not prescribe Privation but moderation in every thing, Eating, Drinking, Talking, Sleeping, &c.

3d Part. Of the Diet.

This is a most important point. It is not sufficient to cure, but you must make new pure blood, and gain strength. Low diet will never avail, but often does much harm. I do not prescribe abstinence from animal food, far from it, but you must avoid all kinds of gross, raw, tough, salted, smoked & fat meats. Use only good, tender, well done meats, chiefly Fowls, Pidgeens, Lamb & Veal.

You will find in the *Pulmist*, my lists of good, indifferent & bad food for y^{r} rule. I have however to add that in this Case, the very best food will be good & Rich, thick Broths of Beef, you may throw away the meat, when all the soluble nourishing food is in the Broth, and make palatable soups of it, with Onions, Cabbage, Turnips, Lettuce, Rice. Turtle soups are very good for you & even Mock Turtle made with Veal. Next to Soups are Eggs in any shape Oysters, Rice &c. this last particularly may be eaten daily in any shape (but not boiled in water alone as usual) such as Soups, Pillancs boiled dry in broth, Puddings &c. Owing to your

[28] Lycopus virginicus L. Bugle-weed, bugle-wort. It is sometimes called wood betony.
[29] Orgeat is an emulsion of almonds, used as a cooling nutritious drink.

hepatic symptoms some food become needful, above all Dandelion sallad or greens, next to it is Endive, Water cress, Lettuce, Cellery boiled not raw, Strawberries, Raspberries & Quince either fresh or preserved— Sorrel, Cranberry tarts, Tomatos, Asparagus, Parsnip &c.

Respecting your Drink, I must warn you that Spirituous Liquors are mortal or deadly for you. If you do not continue to forbear from them hardly any thing will avail. But I do not mean by this, that you must drink only water. There are many other healthy Liquors good for you— Spruce Beer, Mead and Lemonade above all. You may even indulge in some mild wines, chiefly sweet and mellow, such as Malaga, Sweet Lisbon, Claret, but only one glass after meal or as vehicle of medicines, and put always 4 times at least of water into your wine at all times. 1/5th wine 4/5th water. Madera & Port are bad for you.

Since milk agrees so well with you let it be your chief fluid, use the others only occasionally. Tea & Coffee are useless. Let them alone till you are well. If you like Chocolate, it would be very good for you, even better than milk, or you may boil it in milk very thick & put in the Sugar before boiling so as to make a kind of syrup. In this put a dose of chocolate of Pulmel, which is merely Pulmel flavored by chocolate, and make your Breakfast of it, with Toast, Cakes, Crackers. Avoid Fresh bread for awhile.

If you attend well to all these instructions, I flatter myself that you will yet be cured, restore your constitution & enjoy many healthy days. Do so, and Farewell &c &c &c.

C. S. Rafinesque Pulmist &c

Note in pencil at upper right corner of the first page of the Consultation: Died Dec 4th 1831—After being flattered by this Consultation to the amount of $50.00

A NOTE ON THE CENTENARY OF JOHN GOODSIR'S "ANATOMICAL AND PATHOLOGICAL OBSERVATIONS"

RICHARD H. FOLLIS, JR.

This year, 1945, marks the centenary of the publication of a small volume, written in part by the Edinburgh anatomist, John Goodsir. Although the book *Anatomical and Pathological Observations* (1) contains chapters by both John Goodsir and his brother Harry D. S. Goodsir, the contributions of the former are the more important, since they influenced the thoughts and writings of a great contemporary, Rudolf Virchow. Today the fame of John Goodsir rests in large part on these contributions and the recognition accorded him by the German pathologist.

Goodsir was most active in the decade following Schleiden and Schwann's elucidation of the cell theory. During that period new discoveries followed one another with great rapidity, even though techniques for the study of tissues were still very crude. It was during this time that Goodsir made the observations which were incorporated into two chapters, "Centers of Nutrition" and "Secreting Structures" of *Anatomical and Pathological Observations*. The ideas contained in these sections apparently created a profound impression on Virchow who referred to them in several of his published papers and also commented on Goodsir's contribution in his formal lectures. The latter, it will be recalled, were published in 1858 as *Die Cellularpathologie in ihrer Begründung auf physiologische und pathologische Gewebelehre* (2).

In 1852 Virchow wrote as follows: "Indeed in his 'Anatomical and Pathological Observations' John Goodsir has two chapters in which he traces with keenness and certainty the processes of nutrition and secretion from the single elements of tissues and organs which later workers in their detailed investigations have neglected for a long time. In the first chapter on 'Centers of Nutrition' he expresses it thus: 'A nutrition center, anatomically considered, is merely a cell, the nucleus of which is the permanent source of successive broods of young cells.' Further on he shows that, just as it is viewed in the cell theory, the whole organism consists of simple or developing cells of which each maintains an exact relationship to a single or group of cells. Later in the chapter on 'Secret-

ing Structures' he defended the true meaning of the cell nucleus as the nutritive and secretory center and backed up this view with a series of examples" (3).

In another paper published in 1858 Virchow stated: "Indeed with great emphasis and theoretical certainty, John Goodsir designated the cell nucleus as the nutrition center" (4).

TO

JOHN GOODSIR, F.R.S. &c.

PROFESSOR OF ANATOMY IN THE UNIVERSITY OF EDINBURGH,

AS ONE OF THE EARLIEST AND MOST ACUTE OBSERVERS OF

CELL-LIFE,

BOTH PHYSIOLOGICAL AND PATHOLOGICAL,

THIS WORK ON

CELLULAR PATHOLOGY

Is Dedicated

AS A SLIGHT TESTIMONY OF HIS DEEP RESPECT

AND SINCERE ADMIRATION

BY

THE AUTHOR.

Fig. 1.

Reproduction of dedicatory page from first English edition (1860) of Virchow's "Cellular Pathology."

Finally in *Die Cellularpathologie* published in 1858 Virchow mentions Goodsir again: "For the formative act of real growth begins with the multiplication of the centers inasmuch as the nuclei must, as was long since shown by John Goodsir, be regarded as the central organs of the cells" (2).

From the above abstracts it is apparent that Virchow was most impressed by Goodsir's views, enough impressed in fact, to dedicate the

English translation (5) of his *Cellularpathologie* to the Edinburgh anatomist: "To John Goodsir, F. R. S., etc. Professor of Anatomy in the University of Edinburgh, as one of the earliest and most acute observers of cell-life, both physiological and pathological, this work on Cellular Pathology is dedicated as a slight testimony of his deep respect and sincere admiration by the author." (There was no dedicatory page in the German editions.)

As a contemporary British commentary on German medicine it is interesting to examine the reaction to the translation of *Die Cellularpathologie* and especially to Virchow's treatment of Goodsir. A review in the *British Medical Journal* (6) criticizes the German pathologist very severely for not giving the Edinburgh anatomist more credit. The reviewer goes so far as to republish the following passages side by side in order to show how closely Virchow followed Goodsir's words:

> From this it follows, not only that the entire organism, as has been stated by the authors of the cellular theory, consists of simple or developed cells, each having a peculiar independent vitality, but that there is, in addition, a division of the whole into departments, each containing a certain number of simple or developed cells, all of which hold certain relations to one central or capital cell around which they are grouped. It would appear that from this central cell all the other cells of its department derive their origin. It is the mother of all those within its own territory (1).

> Hence it follows that the structural composition of a body of considerable size, a so-called individual always represents a kind of social arrangement of parts, an arrangement of a social kind in which a number of individual existences are mutually dependent but in such a way that every element has its own special action; and, even though it derives its stimulus to activity from other parts yet alone effects the actual performance of its duties. I have therefore considered it necessary and I believe you will derive benefit from the conception to portion out the body into cell territories (2).

It is also of interest to note the reaction of the anonymous reviewer in the *British Medical Journal* to Virchow's great work. The review ends: "Still Virchow has added facts and views to science which we gladly acknowledge, and which will serve to keep his name alive when his cellular pathology is forgotten. Like the enthusiastic searcher after the philosopher's stone or elixir vitae, he has brought useful truths to life; while the ambitious dreams and hopes that stimulated his researches are not only illusory, but in many instances contradictory, unreasonable and even ridiculous" (6).

Of course British medicine did not hold the above views long. At

Fig. 2.

Portrait of John Goodsir, the frontispiece of his collected works (13).

the celebration of Virchow's 80th birthday in 1901 both Lord Lister and Pye-Smith paid homage on behalf of British medical science, the latter admitting that "the anatomy and pathology of disease have been studied during the century just completed with far greater zeal and success in France and Germany than in England" (7).

Goodsir's contribution to the formulation of Virchow's ideas was a real one. In recent times Goodsir's works have been overlooked. However, as Schlumberger (8) has pointed out, Virchow built upon the observations of many in writing *Die Cellularpathologie*.

John Goodsir (9, 10, 11, 12, 13) was born on March 20, 1814 at Anstruther, a small town on the north shore of the Firth of Forth. His family had resided in the vicinity for over 200 years; his father and grandfather were both medical practitioners. At the age of 13 Goodsir began attending classes at Scotland's oldest university, nearby St. Andrews. Here he developed a great interest in natural history, and upon the completion of his studies it seemed in keeping with family tradition to go to Edinburgh and matriculate at the medical school. He was therefore apprenticed to a surgeon-dentist and began his medical studies.

At this time Edinburgh was one of the great seats of medical learning. Although the Anatomy Department of the university had deteriorated under Monro, *tertius*, this subject was well and enthusiastically taught by others including the famous (or to the townspeople—infamous) Robert Knox under whom Goodsir studied. Among his other teachers were Syme in surgery and Macintosh in medicine. After completing his course he was licensed by the Edinburgh College of Surgeons in 1835. He did not take the M. D. degree.

Returning to Anstruther, Goodsir joined his father in the practice of medicine with which he was actively engaged for the next five years. In addition he showed an increasing interest in the study of natural history, especially anatomy. He soon completed a contribution *On the Origin and Development of the Pulps and Sacs of the Human Teeth* which was published early in 1839. Because of his love for natural history Goodsir returned to Edinburgh in 1840 and shortly thereafter was appointed Curator of the Museum of the College of Surgeons. Here he became completely engrossed in the preparation of specimens and in microscopic studies. During this period his fame spread and after 2 years he was appointed Curator of the University museum, then Demonstrator of Anatomy and finally in 1846, upon the death of Monro, *tertius*, Professor of Anatomy. During the period from 1839 to 1846 he prepared 30

papers, some of which were published in the *Anatomical and Pathological Observations* (1).

Goodsir held the chair of anatomy for 20 years. He published virtually nothing after 1846 but took great pains in the preparation of his lectures and demonstrations. His students testify to his indefatigable interest in anatomy, an interest which was not dimmed by his failing health. His disease, locomotor ataxia, led to the following revealing incident as recounted by a former pupil, Sir W. M. Banks:

> One day he was a little excited over his effort, when his poor ataxic legs gave way beneath him and his great body fell with a crash on the floor. He was speedily helped up by those nearest at hand; the table was set up and the delicate skull bones that were on it replaced. Goodsir though evidently agitated steadied himself again. There was a dead silence for a brief period, while he gazed on his favourite sphenoids and ethmoids and then looked up with a delighted air and said with the greatest earnestness: "Gentlemen there is not a bone broken." His own bones were of no moment compared to his specimens and the notion so tickled us that we gave him a tremendous cheer.

Goodsir visited the continent on several occasions. When asked about such "vacations" he said that one day he had spent 16 hours at the microscope with Kölliker. It is quite possible that he met Virchow on one of these visits with Kölliker at Würzburg, for the rising German pathologist held the chair at the University from 1849 until he returned to Berlin in 1856.

Goodsir's health gradually failed; he died in Edinburgh on March 6, 1867.

BIBLIOGRAPHY

1. Goodsir, J. and Goodsir, Harry D. S., *Anatomical and Pathological Observations*, Edinburgh, Myles Macphail, 1845.
2. Virchow, R., *Die Cellularpathologie in ihrer Begründung auf physiologische und pathologische Gewebelehre*, Berlin, A. Hirschwald, 1858.
3. Virchow, R., "Ernahrungseinheiten und Krankheitsheerde," *Arch. f. path. Anat. u. Phys. u. f. klin. Med.* **4**: 375, 1852.
4. Virchow, R., "Reizung und Reizbarkeit," *Arch. f. path. Anat. u. Phys. u. f. klin. Med.* **14**: 1, 1858.
5. Virchow, R., *Cellular pathology, as based on physiological and pathological histology*. Trans. from 2nd ed. of original by Frank Chance. London, J. Churchill, 1860.
6. Anonymous, "Cellular Pathology: Its Present Position," *Brit. Med. J.*, p. 44, Jan. 12 and p. 94, Jan. 26, 1862.

7. Pye-Smith, P. H., "The Influence of Virchow on Pathology in England." *Berlin. Klin. Wochr. 38*: 1036, 1901.
8. Schlumberger H. G., "Origins of the Cell Concept in Pathology," *Arch. Path. 37*: 396, 1944.
9. Anonymous, "The Late John Goodsir," *Edinburgh Med. J. 12*: 959, 1867.
10. Anonymous, "John Goodsir," *Dict. of Nat. Biog. 22*: 137, 1890.
11. Anonymous, "One Hundred Years Ago. The Great Frost of 1814 and the Centenary of John Goodsir," *Brit. Med. J.* I: 718, 1914.
12. Banks, W. M., "Goodsir: A pen portrait," *Liverpool Med.-Chir. J. 35*: 49, 1915.
13. ***The Anatomical Memoirs of John Goodsir***, ed. by Wm. Turner. Edinburgh. A. & C. Black, 1868.

NOTES ON DR. JOHN MORGAN AND HIS RELATIONS WITH ITALIAN MEN AND WOMEN OF SCIENCE[1]

ANTONIO PACE

Having obtained his doctorate in medicine at Edinburgh, John Morgan[2] crossed the Channel into France during the last days of the year 1763 to begin his continental tour. In the spring of 1764 he was in Naples, having meantimes spent considerable time in Paris in further study of anatomy, and having visited southern France, Switzerland, Genoa, Leghorn, Pisa, Florence and Rome. His return from Italy was rather along the Adriatic side, through the cities of Loreto, Bologna, Ferrara, Padua, Venice, Parma, Milan, Turin; thence to Switzerland, France, and back to England. Of the constant record which he seems to have maintained during the voyage, there remain only a fragmentary journal written at Rome in the month of May and the notes relative to his return from Rome to London extending over the period 6 July to 31 October 1764.[3]

It is unfortunate that next to nothing survives of the diary which Morgan probably kept during his trip into Italy and his more or less prolonged stays in Naples and Rome,[4] for in view of the ease with which he

[1] This article is a part of the work made possible in the summer of 1945 by a grant from the American Philosophical Society.

[2] Dr. John Morgan (1735-89), founder of the first medical school in America (now a part of the University of Pennsylvania), director-general of hospitals and physician-in-chief of the Revolutionary army, early member of the American Philosophical Society, needs no introduction to those acquainted with the annals of American science.

[3] The original mss. of both these documents are in Philadelphia: the fragmentary journal is in the Library of the College of Physicians; the integral one, whose present location appears to be nowhere mentioned, is deposited in the Medical School of the University of Pennsylvania, a gift of Mrs. Julia Morgan Harris and George Morris Morgan. They have been published simultaneously as *The Journal of Dr. John Morgan of Philadelphia from the City of Rome to the City of London, 1764, Together with a Fragment of a Journal Written at Rome, 1764, and a Biographical Sketch* (by Julia Morgan Harding); Printed for Private Circulation (165 copies), J. B. Lippincott, Philadelphia 1907. (This book will henceforth in the present article be referred to as "Harding"; the quotations from the *Journal from Rome to London* used below are, however, diplomatic reproductions from the ms.)

The Pennsylvania Historical Society owns a ms. *Journal from Rome to London* that has been occasionally mistaken for the original, but is in reality a copy made in 1847 by George Upfold of Pittsburg.

[4] Cf. Harding, pp. 5, 24, 60.

identifies and entertains Italian notables of science in the *Journal from Rome to London* (due in large part no doubt to his familiarity with the French and Latin languages), we may assume that his entry into Italy and his sojourns in Rome and Naples were no less fruitful in friendships. There can be little question that in Naples he saw much of Domenico Cirillo, eminent physician and botanist of that city, like himself a member of the Royal Society of London and a former student under William Hunter,[5] and whom a few years later he proposed for membership in the American Society apparently before this group joined on 2 January 1769 with the Philosophical Society to form the present American Philosophical Society.[6] Furthermore, the likelihood is great that a connection exists between Morgan's visit to Naples in 1764 and the presence on the roster of the American Society of that mysterious Professor Famitz, of Naples, who automatically became a member of the amalgamated American Philosophical Society.[7] Were more of the diary extant, these relationships could probably be clarified, and others in Naples revealed.

Of Morgan's visits to Rome, which he saw on at least two occasions, both on his way to Naples and on his return thence, practically nothing is known. The fragmentary Roman journal, consisting entirely of notes on objects of art, is worthless—at any rate from the standpoint of the present study. However, there is one clue, scant, to be sure, but rich in implications. Nearly all the biographers of Morgan mention that he belonged to a "Belles Lettres Society of Rome"—somewhat puzzling bit of information, until one has tracked it to the apparent source, the title-page of Morgen's monumental *Discourse Upon the Institution of Medical Schools in America* (Philadelphia 1765), there to read that he was a "Member of the Arcadian *Belles Lettres* Society at ROME." Then what might hitherto have been dismissed as the wildest of conjectures becomes an established fact: John Morgan was inducted into the famous—and much maligned—Accademia degli Arcadi, in all probability the first, and perhaps the last, American to be accorded that dubious honor![8] Of

[5] S. Ticozzi, continuation of G. B. Corniani, *I Secoli della letteratura italiana*, II (1833), p. 456.

[6] *Minutes* of the American Philosophical Society, 16 January 1769.

[7] See *List of Members of the American Philosophical Society*, Philadelphia 1890.

[8] An entertaining—albeit rather unsympathetic—description of the Accademia degli Arcadi is to be found in Vernon Lee, *Studies of the Eighteenth Century in Italy*, London 1887, pp. 1-64; for a more authoritative account, see either M. Maylender, *Storia delle accademie d'Italia*, I [1926], pp. 232-81, or G. Natali, in the *Enciclopedia italiana* (Treccani), *ad vocem*.

The assumption of pastoral names by initiates was a customary part of the bucolic

interest to us is the fact that the Accademia degli Arcadi counted amongst its members a substantial number of physicians and naturalists, who dabbled in poetry,[9] but whose professional activities are not necessarily subject to the same stigma of mediocrity attached to their literary efforts. It was doubtless through friends in their ranks that Morgan was admitted, and it is fairly safe to assume that he took advantage of his affiliation to broaden his acquaintance in at least the scientific circle of the academy.

The most satisfactory evidence of Dr. John Morgan's associations with the Italian scientific world is found in the *Journal from Rome to London*, the bulk of which deals with Italy, and is of manifold interest and importance. Aside from its present pertinency, this diary is noteworthy as possibly the first documented voyage of an American in Italy; moreover, its keen observations on the people and their manners in town and country, on the cities, universities, hospitals, etc., constitute a significant contribution to our knowledge of that era in which modern Italy began to find herself.

Morgan's first allusions to representatives of Italian science in the *Journal from Rome to London* are, strangely enough, to women. The bluestocking, a totally unknown species on this side of the Atlantic, was quite common in eighteenth century Italy, and many women attained notoriety or fame in a wide range of activities.[10] The total lack of exclamation in the diary warrants the inference that Morgan was already aware of the existence of such women.

On Friday, 19 July, he tells of a visit to the Accademia Clementina of Bologna, where he sees "many anatomical preparations for teaching Women the art of Midwifry—most of them prepared by a celebrated female Anatomist, whose Name is Sig^{ra} Anna Manzolini.—(her maiden name Morandia)." This unusual woman, Anna Morandi[11] (1716-74), had married an excellent physician, G. Manzolini, from whom she had learned the science of anatomy, and the art of fashioning anatomical models from wax, which she carried to high perfection. Upon the death of her husband in 1755, she availed herself of the extraordinary privilege extended to women at the University of Bologna to obtain the chair of anatomy, ". . . whither flocked listeners," remarks Natali,[12] "enticed by the novelty

trappings of this academy: it would be indeed curious to know Dr. John Morgan's title *fra gli Arcadi*!

[9] G. Natali, *Il Settecento*, Milan 1929, p. 648.

[10] Natali, *op. cit.*, p. 132 ff.

[11] Not "Morandia."

[12] *Op. cit.*, p. 166.

of the fact and by the grace with which she expounded abstruse and sometimes scabrous subjects."

More versatile and renowned was the woman whom Morgan met at the University of Bologna on the following day, Laura Bassi (1711-78), who had been called by the Senate of that city in 1745 to profess natural philosophy, and later, from 1776 to her death, was professor of physics in the same university. The scarcity of information regarding the actual work of this early woman scientist, in her day so far famed, renders precious the few details in Morgan's *Journal*. He relates that when he first saw her she was occupied in giving a lecture on light and colors, accompanied by demonstrations with "phosphori" [13] and an experiment to show the dispersion of a ray of light passing through a slit. Her explanation of the latter phenomenon, obviously based upon the corpuscular theory of light, indicates that she had remained faithful to Newton since her first public lectures on optics before her twentieth birthday.[14]

"After this," Morgan concludes, "she discoursed very learnedly on Electricity & other philosophical Subjects, introduced me to her Husband who is Professor of Medicine in the College, and when I left her, was greatly pleased at her affability—She spoke in french." [15]

On Sunday morning, 21 July, Morgan was visited by the husband of Laura Bassi, Giuseppe Veratti,[16] with whom he conversed "on Anatom[l] & Medic[l] Sub.", and who furnished him with a letter of introduction to the illustrious Giovanni Morgagni (1682-1771) at Padua, today universally acclaimed as the founder of pathology.

Arriving in Padua on 24 July, John Morgan lost no time, but went to visit Morgagni on the afternoon of the same day. No biography of Morgan fails to mention the famous interview, which fills several of the most fascinating pages of the *Journal*. Morgagni showed Morgan, among other objects, numerous pathological and anatomical specimens, and a series of portraits of his predecessors in his chair at Bologna, with comments upon the evolution of their costume. The scene has a strong personal note. When Morgan exclaims about the portraits of two beautiful girls in the

[13] Cf. *De Bononiensi scientiarum et artium instituto atque academia commentarii*, II, ii (1746), p. 136 ff., iii (1747), p. 498 ff. Laura Bassi was a member of this famous academy.

[14] Vernon Lee, *op. cit.*, p. 33.

[15] Morgan accepts evidence of the work of other feminists with the same equanimity: at Padua, in his well known interview with Giovanni Morgagni (see below), he notes two portraits by the Venetian artist, Rosalba Carriera; at Turin, he much admires the production of another woman painter, Camilla.

[16] Not "Serrati," as in the *Journal*.

study, Morgagni tells a story so fraught with the overtones of pathos that not even the dry account of the diary can entirely stifle them: how his eight daughters, two by two, became nuns,[17] the last pair selecting the strictest of all feminine orders, that of St. Clare; whereupon his friend, the celebrated woman painter, Rosalba Carriera, had made the portraits of his two youngest daughters before they took their vow of perpetual enclosure.[18]

John Morgan in turn transmitted information about the recently perfected method of preparing anatomical specimens by corrosion,[19] displaying a piece of liver which he had so treated in Paris; and Morgagni evinced great interest and admiration. Morgan further relates that at the end of this first encounter he presented Morgagni with a copy of his Edinburgh doctoral thesis,[20] and received in exchange the latter's classic *De Sedibus et causis morborum* (Venice 1761).

Morgan left Padua for Venice on 26 July, but returned to Padua on 5 August. On the evening of the 5th, he and his traveling companion, Samuel Powel, paid Morgagni a final call, during which they "were entertained very politely, and agreeably," and the following day they resumed their journey.

The relations of John Morgan and Giovanni Morgagni just described are enhanced by a curious sequel flavored with more than a touch of mystery. On 2 November 1789, a couple of weeks after Morgan's death, his successor to the chair of the Theory and Practice of Medicine, Benjamin Rush, pronounced a eulogy entitled "An Account of the Late Dr. John Morgan, Delivered Before the Trustees and Students of Medicine

[17] A course of action that may have been dictated to a considerable extent by their father's inability to furnish dowries, for Morgagni led a life of unreprievedly straightened circumstances: cf.. art. "Morgagni" in the *Enciclopedia italiana* (Treccani), written by the present incumbent in the chair of pathological anatomy at the University of Padua, G. Cagnetto.

[18] A. Castiglioni, "Il Dottor John Morgan da Filadelfia e Giovan Battista Morgagni," *Rassegna clinico-scientifica*, XII (1934), pp. 385-91, reproduces the pastel portraits of Margherita and Luigia Domenica Morgagni by Rosalba Carriera that Morgan saw; he also lists the men represented in the series of portraits (still in the University of Padua) on which Morgagni made his observations to Morgan.

[19] Presumably the same information that he later published as "The Art of Making Anatomical Preparations by Corrosion," in the *Transactions of the American Philosophical Society*, II (1786), p. 366 ff. The reference therein to the manner in which Morgagni welcomed the communication (p. 371) was obviously taken by Morgan from his own *Journal*.

[20] Πυρετολογία, *sive tentamen medicum de puris confectione* (Edinburgh 1763).

in the College of Philadelphia," [21] wherein he alluded to the reception accorded Morgan by Morgagni as follows:

> This venerable physician, who was the light and ornament of two or three successive generations of physicians, was so pleased with the doctor, that he claimed kindred with him, from the resemblance of their names, and on the blank leaf of a copy of his works, which he presented to him, he inscribed with his own hand the following words, "*Affini suo, medico praeclarissimo, Johanni Morgan, donat auctor.*"

This statement was accepted at face value until quite recently, when investigation revealed inscriptions in each of the two volumes of the *De Sedibus et causis morborum* given by Morgagni to Morgan, and subsequently deposited by the latter in the Library of the College of Physicians at Philadelphia: in the first—*Viro Experientissimo, et Humanissimo / D. D^i. Joanni Morgan / auctor //* ; and in the second—*Viro de Re Anatomica bene merito / D^o. D^ri. Joanni Morgan / auctor.//* ; but not the famous inscription reported by Rush.

The whole question has been aired with rare historical acumen by Dr. George Dock,[22] who under the following heads answers those who would discredit the tradition: a) Any distortion by Rush in such a matter would probably have evoked comment on the part of persons acquainted with the facts on any one of the at least three occasions that the controversial passage appeared in print up to the year 1827 (the third time in the *North American Medical and Surgical Journal*, edited by men thoroughly familiar with the Library of the College of Physicians, who almost certainly would not have sponsored the statement had it been erroneous). b) Neither the presence of the two inscriptions cited above, nor the absence of the moot one, in Morgan's copy of the *De Sedibus et causis morborum* can be construed as arguments to prove the non-existence of the inscription reported by Rush, since Rush specifically declares what he quotes is found on a "blank leaf"; and the original fly leaves of the *De Sedibus et causis morborum* were removed long ago in the process of restoration and rebinding. c) The absence of any mention of the questioned inscription in Morgan's *Journal* cannot be adduced as evidence, because Morgan obviously did not record every detail of his association with Morgagni.

[21] First published in the *The American Museum*, VI (1789), pp. 353-55; reprinted in the *Philadelphia Journal of the Medical and Physical Sciences*, I (1820), pp. 439-42.

[22] "The Alleged Dedication of Morgagni Recognizing Kinship to John Morgan," in the *Medical Library and Historical Journal*, IV (1906), pp. 41-44. Although aware of the existence of this article, I was unable to locate it until the author, in answer to a written inquiry, generously furnished a reprint.

Although one must perforce still echo the words of Dr. Dock, that "With the available evidence there is no way of drawing a positive conclusion," nonetheless a few facts can be added which will widen the margin of probability that the Rush tradition is authentic. At the very end of the Morgan *Journal* there is a list in Morgan's hand of objects "Shipp'd in a Box for England," [23] which list, containing a number of books, begins:

Joan. Baptiste Morgagni de Sedib: et causis Morbor: 2 Vol: Fol—Veneteis 1761—
J: B: Morgagn. Epistol: anatom: duae—Fol; Venet: 1762
. . . . . Opuscul: miscellanea D° D° . . .

This immediately suggests as a corollary to c) of the above analysis of Dr. Dock's depositions that Morgagni may have given Morgan books not mentioned in the *Journal*—conceivably even books of which he was not the author; and one notes with new interest that Rush did not name the volume that contained the inscription he cited. However, an examination of all the books by Morgagni in the Library of the College of Physicians printed up to the time of Morgan's visit, and, on the chance that Rush may somehow have erred in his citation by adding the word "auctor," of all the books in that library known to have belonged to Morgan, yielded almost completely negative results.[24] One possibly significant bit of evidence was uncovered: Morgan's copy of the *Epistolae anatomicae duae* bears ink spots at the extreme top left of the title page, and at the right top, loops of two letters are clearly visible, proving that some handwriting was removed in the trimming attendant upon binding this work with the *Opuscula miscellanea*. These two books are very probably the ones referred to by Morgan as boxed for England at the end of his tour of Italy, and they may have been presented to him by Morgagni. It is perhaps meaningful that they stand at the head of his list of books shipped, along with the *De Sedibus et causis morborum* which is unquestionably the copy given him by Morgagni. Unfortunately, as with the *De Sedibus et causis morborum*, both the *Epistolae antomicae duae* and the *Opuscula miscellanea* have lost their original fly leaves, so that it is impossible to follow to the letter the indication of Benjamin Rush.

In sum, while the only books which can be positively identified as those given by Morgagni to Morgan are the two volumes of the *De Sedibus et causis morborum*, and the only inscriptions which seem to have survived are the two found therein, one has legitimate reason to wonder what other

[23] Harding, p. 239 ff.

[24] I must acknowledge the forbearance and kind aid of the present Librarian, Mr. W. B. McDaniel II.

books Morgagni may have presented to his American friend, and with what inscriptions. In this connection, the burning of Morgan's house by the British at Bordentown, whither he had removed many of his books, manuscripts and other valuable objects,[25] gives further cause to speculate.

It would be gratuitous to seek the origin of a more modern legend to the effect that John Morgan later spent considerable time—" several months," no less—under the tutelage of Morgagni.[26] Would that it were so! However, the complete absence of documents in support of such a belief, conjoined with simple considerations of chronology, indicate the impossibility, or at least the extreme improbability of such a happy event. The meeting with Morgagni described by Morgan in his *Journal* was the introductory one, and after leaving Padua, Morgan continued his voyage until he arrived in London on 31 October, with the intention of embarking at once for America. The lateness of the season caused him to postpone his departure, and a letter from his comrade, Samuel Powel, to William Cullen proves that he is still in London on 24 November.[27] He appears to have sailed for America late in February or early in March of the following year, after having spent the winter in London and Paris.[28] In any case, it is highly unlikely that between the end of November and the beginning of March John Morgan spent " several months " with Morgagni.

The next stop after Padua recorded in the *Journal from Rome to London* that holds interest for us is at Parma, where Morgan passed the days 10 to 13 August. Having letters of introduction to Flaminio Torrigiani (1729-92), surgeon at the Ducal court and professor of theoretical medicine and experimental physics in the University of Parma, Morgan went to pay his respects. When he admired a skeleton in the possession of Dr. Torrigiani—" one of the finest and whitest . . . I ever saw," Morgan was favored with an exact recipe, which he records in his *Journal* with the note: " This Leaf to be Cop^{d} into my Med^{l}. Notes & c."

On 19 August Morgan arrived in Turin where he remained several weeks, his time largely occupied by sight-seeing and the active social life of that capital. One note taken on 4 September is worthy of attention. On that day he visited the University of Turin, and at one point he remarks laconically: " We were introduc'd to Pere Baccheri Profess^{r}. of Mathm^{cs}. and experimental Philosophy—He attempted to shew us some Experiments in Electricity. It being a bad day, they did not succeed—."

[25] Harding, p. 38.

[26] This myth is countenanced, for example, by the *National Cyclopaedia of American Biography*; also by the more recent *Dictionary of American Biography*.

[27] Harding, p. 29.

[28] *Ibid.*

Apart from whatever value the meteorological deduction may have that 4 September 1764 in Turin was a day of unusually high humidity, this entry in the *Journal* is interesting because the frustrated experimenter can be none other than the celebrated Giambatista Beccaria (1716-81), known to Americans especially for his correspondence with Benjamin Franklin, whose system of electricity he introduced into Italy and whom he vigorously defended against the most violent of his detractors, the Frenchman, Nollet.

Three days later, Morgan crossed the confines of Piedmont bound for Geneva.

To conclude, it is clear despite the limited number of pertinent documents that the European career of Dr. John Morgan is, from the point of view taken in this study, a foreshadowing of the scientific intercourse between Italy and America which reached its apogee in the activities of the American Philosophical Society of Philadelphia somewhat later in the eighteenth century in an atmosphere of friendly cooperative endeavor based essentially upon personal acquaintance and collaboration. The significance particularly of the *Journal from Rome to London* in this as well as in other connections seems never to have been appreciated, and one has cause to regret that this book is generally available only in an extremely limited private edition.

MEDICO-HISTORICAL NEWS AND ACTIVITIES

AMERICAN ASSOCIATION OF THE HISTORY OF MEDICINE

CONSTITUENT SOCIETIES

The Beaumont Medical Club, New Haven, Conn.

The seventy-second meeting of *The Beaumont Medical Club* will be held in the Beaumont Room, Yale Medical Library, on Friday, November 9, 1945. Dr. Claude E. Heaton of New York will present a paper entitled "Some Early American Books on Obstetrics."

New York Society for Medical History, New York.

The November meeting of the *Society* will be held on November 1, 1945 at Squibb Hall. Dr. C. P. Oberndorf will speak on "The Literary and Historical Contributions of Dr. Smith Ely Jelliffe."

NATIONAL NEWS

The Howard Dittrick Museum of Historical Medicine, Cleveland, Ohio.

The formal dedication of the Howard Dittrick Museum of Historical Medicine (*cf.* this *Bulletin*, 1945, Vol. 17, p. 106) was held in the Auditorium of the Cleveland Medical Library on October 6, 1945. This celebration was the concluding event of the Annual Meeting of the Honorary Consultants of the Army Medical Library. Addresses were given by Mr. I. T. Frary of the Cleveland Museum of Art and Dr. H. R. Viets, Librarian of the Boston Medical Library.

Ohio State University College of Medicine, Columbus, Ohio.

In connection with the re-organization of the College of Medicine of The Ohio State University, the chair of the History of Medicine was created. Dr. Jonathan Forman, Editor of the *Ohio State Medical Journal*, was selected to be its first occupant. Dr. Forman has long exhibited an interest in medical history, especially of the state of Ohio. In 1929 he wrote a *History of the Medical School of the University of Michigan*, and in 1934 he compiled a source book of the history of the School of Medicine of The Ohio State University and its predecessors. The following year he was appointed Chairman of the Committee on Medical History and Archives, which later became a constituent society of The American Association of the History of Medicine. He enlisted the interest of some dozen or more Ohio citizens in the work of this Committee. Its members have been responsible for nearly 200 articles on the local history of Ohio. In recognition of his leadership of this group, Dr. Forman was appointed the first Professor of the History of Medicine in The Ohio State University.

NEWS FROM ABROAD

Egypt

When we published Dr. Max Meyerhof's paper "Sultan Saladin's Physician on the Transmission of Greek Medicine to the Arabs" in the July issue of the *Bulletin*, we did not know that the author had died on April 20, 1945. Max Meyerhof celebrated his 70th birthday in 1944, and the University of Jerusalem published a bibliography of his writings in honor of the occasion. With Meyerhof medical history loses the foremost historian of Arabic medicine.

England

Annals of Science.

Messrs. Taylor and Francis, Ltd., publishers of the *Annals of Science*, inform us that they are now able to resume publication of this journal, which has been in abeyance since December 1942. Owing to the high cost of printing it has been found necessary to increase the annual subscription to two Pounds per volume of four parts. No extra charge will be made for Volume 5 to those who have already subscribed for it.

The Newcomen Society for the Study of the History of Engineering and Technology.

This year marks the completion of 25 years' activity of the Society. The Officers of the Society in 1920 included A. Titley as President, three Vice-Presidents, ten Members of Council and H. W. Dickinson as honorary Secretary and Treasurer. Of these fifteen members, seven have served on the Council during the whole 25 years, Dr. Dickinson serving as sole or joint honorary Secretary for the whole period except for the two years of his Presidency 1932-34, when A. Stowers took office. The growth of the Society can be traced in successive Annual Reports published in the *Transactions*. The first volume of *Transactions*—that published in 1922—ran to 83 pages, contained six papers and 18 plates and a list of 120 members; Volume XX, 1939-40 (the last before the war) ran to over 180 pages, contained 20 papers, 10 Figs. and 16 plates, while the Annual Report gave the membership as 1512. Since then the membership has risen to well over 5,000 principally due to the activities of American friends. The number of papers and notes presented to date is upwards of 300. But three volumes of *Transactions* have yet to be published. Besides the papers, the *Transactions* have contained many Notes and Communications, a valuable Analytical Bibliography of the History of Engineering and Applied Science and other matter. In addition to being Secretary, Dr. Dickinson was editor of nearly every volume of the *Transactions*. Separate General Indexes have been published for Volumes I to X and Volumes XI to XX, and the proposal has been made that the 25th Anniversary should be marked by the publication of a complete list of papers and communications up to date. Nothing could give the reader a better idea of the work done by the Society to further the study of the history of Engineering and Technology.

Early Science in Oxford.

Volume XIV of the series *Early Science in Oxford*, "Life and Letters of Edward Lhwyd, Second Keeper of the *Musaeum Ashmoleanum*," published by the late R. T. Gunther, was recently issued. The volume contains a bibliography of the books and papers of R. T. Gunther.

The Wellcome Historical Medical Museum and Library, London, England.

The Wellcome Foundation announce that they have appointed Dr. E. Ashworth Underwood as Director of the Wellcome Historical Medical Museum and the Wellcome Historical Medical Library, and that he will take up his new duties as soon as he can be released from his present post of Medical Officer of Health and Chief School Medical Officer of the County Borough of West Ham. Dr. Underwood has held his present post for the past eight years. Before that he had been Medical Officer of Health of the Metropolitan Borough of Shoreditch, Deputy Medical Officer of Health of the City of Leeds, and Lecturer in Public Health in Leeds University. In this field he was written widely on tuberculosis, epidemiology and allied subjects. Dr. Underwood is well known for his activities in the sphere of the History of Medicine. During the past five years he has been Honorary Secretary of the History of Medicine Section of the Royal Society of Medicine. He has contributed to the *Proceedings* of that Society, and to other journals, studies on the history of certain infectious diseases, on the medical importance of Lavoisier and the French chemists, on the earlier anatomists and on other subjects. He has for some time been collaborating with Professor Charles Singer in work on Vesalius.

The Wellcome Museum of Medical Science, London, England.

Wing-Commander C. J. Hackett has been appointed Director of the Wellcome Museum of Medical Science in succession to Dr. S. H. Daukes who has been responsible for the development of this Museum during the last 26 years. Dr. Hackett, who was a Research Fellow in Tropical Medicine of the Medical Research Council and who has done important work on yaws and other tropical diseases, will take up his new appointment as soon as he has been released from the Royal Air Force.

France

We are informed through a letter of M. Henri Génot, Treasurer of the French Society of the History of Medicine, to Dr. Harry Friedenwald of Baltimore that Dr. Lévy-Valensi, a very active member of the French Society, was in Marseille during the German occupation of France and that on his way back to Paris he was arrested by the Germans and sent to Germany. No news have been received since then.

Italy

Professor Arturo Castiglioni has been informed that his valuable collection of medical books which he was forced to leave behind in Trieste was completely sacked by the Nazis. The collection was inspected by two German officers, said

to be experts, who chose and took with them several hundred volumes, among which were incunabula, rare editions, etc. The rest of the collection was dumped into a court.

We also hear that Professor Pietro Capparoni of Rome is alive and in good health, and that Professor Andrea Corsini of Florence, who is in charge of the public health services of the city, is restoring the Museum of the History of Science of the University and is continuing the publication of the *Rivista di Storia Critica delle Scienze Mediche e Naturali.*

COMMUNICATIONS

Dr. Douglas Guthrie of Edinburgh, Scotland has sent us the following information concerning the plates in Withering's *Account of the Foxglove*:

"It may interest you to hear that after reading the Note in the April number of the Bulletin of the History of Medicine by Estelle Brodman on 'Two different plates in Withering's Account of the Foxglove' I examined the copies in several libraries with the following result—

Edinburgh University Library: Reversed print.
Royal College of Physicians, Edin: Usual print.
Royal Society of Medicine, London: Reversed print.

As your contributor asks for further information, I am glad to be able to supply the above."

BOOK REVIEWS

ALDO MIELI. *Lavoisier y la Formación de la Teoría Química Moderna.* Espasa-Calpe Argentina, S. A. Buenos Aires—Mexico 1944. 154 pp. $1.50.

Aldo Mieli, whose fervent activity in the field of the history of science is well known to all interested in the subject,—who have appreciated his studies on science and antiquity, on the Italic Philosophic school and on the history of chemistry, and his admirable work as secretary of the International Academy of the History of Science and Editor of *Archeion*—has published a small work on Lavoisier which summarized in a brilliant exposition the history of the beginning of modern chemical doctrine. Mieli is one of the few writers on scientific historical subjects, who is at the same time a very exact examiner of facts, precise in the collection of dates and in the choice of the outstanding ideas, and able to make his writing pleasant and agreeable for a large public. The history of the important period in the evolution of modern chemistry which begins with Lavoisier finds in this book a very accurate exposition. He does not start from the point of view of many biographers who, considering all actions of the man whose life they are discussing, as heroic, too often tend to attribute to his discoveries or ideas an excessive value. Mieli begins by asserting that there is no original discovery which can be attributed to Lavoisier as almost all his doctrines had been previously announced by others; however, his great credit is his method of organizing and ordering scientific and chiefly chemical knowledge. He was the man who decisively organized the most important changes in the theoretical principle of chemistry, which closing the period initiated by Boyle, mark the passage from phlogistic to antiphlogistic chemistry. A clear and comprehensive mind, a vast and deep culture, a brilliant intuition of the right way to adopt, an admirable faculty to recognize in a small fact the cause of development, and an exceptional intellectual fastness which brought him in some days to conclusions which could have been achieved by others only after years. Almost all the discoveries of the great thinkers of the 18th and partly also of the 17th century found in Lavoisier the perfect organizer of their doctrines. His young and clear mind succeeded in substituting the most simple system for the one which had been accepted by the majority.

In a series of chapters Mieli tells the story of the childhood and surroundings of Lavoisier, of his part in the work of the Academy and later in the "*ferme générale*" summarizing in a very clear way the facts which originated the study on the combustion of the diamond which brought the key to the new chemical doctrine. The studies on weight increase in the calcination of lead and on the so-called nitro-aereal spirit of John Mayow are clearly summarized. The doctrines of Stahl and his school came to the attention of Lavoisier who was the first to attack them. The role which was played by Priestley and Scheele in the discovery of oxygen, on which many priority contests took place, is exposed in a chapter in which the history of the discovery is very objectively reported. In 1783 the experiments on the synthetic production of water were performed, and the reports of Magendie on his experiment, are quoted and discussed. One of the most interesting chapters in Mieli's book is the one devoted to the experiments on

respiration (1777). The importance of this fundamental work is very clearly stressed.

The other works of Lavoisier, his contribution to the Committee of Weights and Measures, find their place in a chapter in which the most important facts are summarized. Finally the trial of Lavoisier by the Convention, his condemnation and execution are told in an interesting and dramatic way. The conclusion of the book is that Lavoisier represents the type of genius which owes his power to a splendid synthesis and organization and a clear judgment which recognizes in the first, sometimes initial, exposition of ideas of other thinkers, the core, the most important moments, and the possibility of a great evolution.

It is not only a valuable book, but also an attractive volume which seems to me to deserve to be read by a large public. We may hope that it will be translated into English, and we wish Aldo Mieli, who has been able to accomplish a great work notwithstanding the many unpleasant adventures of his life, may have the time and the opportunity to carry on the great work which he announces in the Preface of this book: another volume on Volta and the history of electricity, a third on Cannizzaro and the atomic theory, another on Theophrastos, finally a large work with the title General Panorama of History of Science, in eight volumes. It is sure that the work of Mieli, inspired by a fervid love for historical studies and by a vast knowledge, is a signal contribution to the history of science.

ARTURO CASTIGLIONI.

JUAN B. LASTRES and C. ALBERTO SEGUIN. *Lope de Aguirre, el Rebelde.* "El Ateneo," Buenos Aires, 1942. 140 pp.

We owe to Dr. Lastres many important contributions to the history of medicine in Peru; his books, his lectures, his activity in the Peruvian Society for the History of Medicine play an important role in the progress of historical studies in that country, which surely from many points of view offers a great attraction to the medical historians. Lastres and A. Seguin present in this book the history of one of the great adventures in the conquest of South America. Lope de Aguirre, who liked to call himself a pilgrim, belonged to the group of conquerors who appear sometimes as insane; who dared to face the most terrible and incredible risks and were guilty of many crimes, and therefore appear no less interesting to the historian than to the psychiatrist.

The life of Lope de Aguirre is connected with the legend of the Amazon River which is partly mythological. The river played a paramount part in the history of Peru, and the legend of the people of Virgins, chosen by the Inca, of the rite of infanticide and a number of other customs are very popular in the country. In this book the personality of the conqueror has been examined from the point of view of the psychiatrist. He was eloquent, exaggerated, audacious, always used to speak very loudly and eloquently, able to attract and to lead all people,—and there were many at that time,—anxious for adventure. His cruelty is compared in this book with that of other conquerors; Aguirre was proud of his crimes, he not only confessed them but boasted of them. He was a rebel. The authors believed that he transferred in his emotional attribute towards a dictatorial conception of

authority, law, rule and right the inferiority complex of his childhood during which his elder brother was dominating. In fact, he was always eager to kill, to suffer and to die. He condemned to death or brought to death himself no less than sixty-two persons among them his own daughter without any plausible reason and only for a suspicion; the authors consider him as a schizothymic with criminal tendencies.

The history of Aguirre's life is one of the most dramatic stories of adventure in the episode of the conquest. Not only because of the enormous risk which he confronted, with a little troop of men who crossed the lands about which the most fantastic tales of riches in gold and precious stones were popular; but also for the thousands of difficulties which they, good and bad men, heroes and criminals, faced during their journey. The discovery of the Amazon is considered therefore one of the most romantic and epic facts of the conquest which ended in a barbarian orgy of blood and madness. In this story Aguirre appears sometimes as a man of genius, considered by some historians as a forerunner of American independence, sometimes as insane, as a traitor, a cruel and hallucinated man who acts without any explanation. In his book the personality of Aguirre is studied first from the point of view of the history of his expedition, which began with a plot against Ursoa who was the first commander of the party. Aguirre was one of the men involved in the plot. Ursoa was killed and Aguirre assumed the command of the expedition, boasting to be prince and king of Peru and proceeding with the blessing of the flags. The expedition sailed through the Amazon with a program to conquer the whole of South America. The adventurers had to face terrible deprivation and adventures: some women play a great role in the events. Aguirre later caused Donna Ines, who had been the lover of Ursoa, to be executed and he was bound in love to a metiss fifteeen years old. And this fact gives origin to fierce quarrels. At the same time the environmental and sanitary conditions were very bad and many of the adventurers were dying. But Aguirre was determined to go on. His life was always in danger, but it seemed that he was able to endure the most serious conditions. He was a great orator and was able to exert great suggestive power over his soldiers. He was suspicious of everyone and everything, and always ready to take a bloody vengeance on his enemies or those whom he supposed to be against him. He planned to institute a new kingdom and wanted to be elected by his soldiers to the highest power of the new state. There were 270 soldiers and 186 of them signed a declaration expressing their wish to have Aguirre on the throne.

After a great number of dramatic adventures and as a consequence of a plot of his soldiers, Aguirre was condemned to death. Before the day of his execution he killed his own daughter Elvira with a dagger. During the execution he behaved very courageously. After the first shot; he said: "that was a bad shot," after the second; "this is better," finally one of the executors cut his head with the sword. That happened on October 27, 1561 when he was 45 years of age.

In the second part of their book, the authors study accurately, with the help of the documents and historical facts, the personality of the adventurer. This is not the place to follow the exact analysis, the conclusion of which is that Aguirre was not affected with paranoia as some historian had affirmed, but that he was a schizothymic. The story of one of the most dramatic episodes in the history of the conquest, the description of places and persons, and of the surroundings, finally the

stressing of the historical importance of the events with which Aguirre was connected, present to the reader a fascinating picture of a period which is not yet sufficiently known by the historian and surely deserves to be recorded. The authors have brought a remarkable contribution to this history.

ARTURO CASTIGLIONI.

JUAN B. LASTRES. *Vida y Obras del Dr. Miguel Tafur*, Lima, Peru, 1943. 126 pp.

Dr. Lastres, whose papers on the evolution of medicine in Peru are very much appreciated, traces in this book the biography of one of the prominent physicians of Lima, Miguel Tafur (1766-1833). He was *protomedico* of Peru and Professor at the University of San Marco in Lima after having obtained in this school the medical degree. He began teaching in 1798 and was appointed in 1809 to the Chair of Therapeutics in the Royal College of Medicine. In 1807 he was appointed as member of the Committee of Public Health, in 1814 as Professor of Medicine. He played an important role in the revolutionary movement for the independence of Peru, was later member of the first Congress (1822-1825), later President of the Medical College and in 1826 Rector of the University of S. Marco. His scientific and literary work is contained in fifty writings about classical medicine and chiefly on Hippocrates and Galen. He was conversant with the writing of antiquity but was also a great admirer of Boerhaave and especially of Baglivi, whom he considered as the greatest clinician of his time. One of his books is devoted to the symptomatology of infectious diseases. He was an excellent clinician whose influence on the development of medicine in Peru was a lasting one and whose works had a great popularity among Peruvian doctors and students.

Dr. Lastres has published in his book a number of the most important papers of Tafur which give a clear idea of the work which the great Peruvian physician and teacher has accomplished. Lastres' book is a remarkable contribution to the history of Peruvian medicine.

ARTURO CASTIGLIONI.

MARTIN GUMPERT. *Hahnemann. The Adventurous Career of a Medical Rebel.* New York, L. B. Fischer, 1945. $3.00.

A little more than a century ago (July 1843), Christian Friedrich Samuel Hahnemann, the founder of the doctrine of homeopathy, died in Paris. Statues have since been erected in his honor in Washington, Paris and Leipzig, but to the present medical generation he is little more than a name. A thorough critical study of Hahnemann and his role in the development of medicine is long overdue and would certainly be a distinct contribution to medical history. The volume under review, a translation of Gumpert's original book published in Berlin in 1934,[1] is a step in this direction, but falls short of being a thorough study of Hahnemann and his work.

[1] Martin Gumpert: *Hahnemann. Die abenteuerlichen Schicksale eines ärztlichen Rebellen und seiner Lehre, der Homöopathie*, Berlin, S. Fischer Verlag, 1934.

Dr. Gumpert presents Hahnemann's career in a romanticized, semi-fictional dress which makes for entertaining reading. The biography of Hahnemann could well be called a "Life of Travels," and the author follows the peregrinations of the errant doctor from the small mining community of Hettstedt, where Hahnemann began to practise, to Paris, where he brought his turbulent career to an end. Dr. Gumpert is in sympathy with his subject, and on the basis of his reading of Hahnemann's works endeavors to clarify and to present a plausible account of the homeopathic doctrine. In the opinion of this reviewer, however, this attempt is unsuccessful. While Hahnemann undoubtedly exercised a beneficial influence on medicine by combating the therapeutic excesses of his day (bleeding, large doses of calomel, etc.), there is certainly no connection historically between his doctrine of *similia similibus* and the achievements of modern serotherapy, as implied by Gumpert.

Dr. Gumpert's whole book is a recognition of the fact that Hahnemann was an innovator and a rebel against authority, but he makes little use of this fact to arrive at a deeper understanding of the man and his movement. Hahnemann is a representative of a distinct type in the history of medicine, the medical agitator and innovator (cf. Paracelsus, Broussais), and in a wider view of a distinct social type, the cult leader. The personalities of such individuals present much that is familiar to students of the phenomenon of leadership. In many respects such leaders exemplify the type described by Weber as *charismatic*.[2] Thus, all through the story of Hahnemann's life runs an implication of his being "set apart" for his work, that he experienced a special calling for his task. A personal leader of this type has two propaganda functions: to present his own cause favorably, and to build up in his followers an appropriate image of the opposition (see Gumpert, *Hahnemann*, p. 149). One of the ways in which a cult leader responds to the leadership situation is to undergo an evolution of ideas regarding the theoretical basis for his movement. In the case of Hahnemann we can observe this evolution culminating the development of the monistic pathology of the *psora*. Furthermore, the cultist violates many of the conventions of scientific innovation, and in many instances threatens vested material or intellectual interests. That this was so in the case of Hahnemann can be perceived from his pamphlet, *Aesculap auf der Wagschale* (Aesculapius in the Balance) which throws considerable light on one great reason for the opposition that homeopathy aroused, by clearly showing how powerful were the vested interests (physicians and apothecaries) directly threatened by Hahnemann's theories and practice.

From the above brief discussion it is clear that a broader sociological approach would have enabled the author of this book to carry out a more penetrating analysis of Hahnemann and his doctrine. As it stands the book can be recommended as a popular account of Samuel Hahnemann and the beginnings of homeopathy.

GEORGE ROSEN.

[2] Max Weber: *Wirtschaft und Gesellschaft*, Tübingen, 1921, pp. 140-148.

WILLIAM L. RUSSELL. *The New York Hospital. A History of the Psychiatric Service 1771-1936.* New York: Columbia University Press, 1945. 556 pp. 35 ill. $7.50.

New York Hospital, chartered in 1771 and opened to the public in 1791, from the very beginning took a special interest in the mentally diseased. A special building for such patients was opened on the grounds of the general hospital in 1808. In 1821 this close spatial connection was disrupted for more than one hundred years when the psychiatric services were transferred to a site called Bloomingdale (located in the northern part of Manhattan and now part of the grounds of Columbia University). This removal was, like so many developments in the history of American hospitals and other cultural institutions, due to the intiative of a Quaker. Thomas Eddy, a "Friend" and one of the Governors of New York Hospital, wanted to create at Bloomingdale a center for the new methods of "moral treatment" of the insane, methods which had been inaugurated in France and England by the Pinels and Tukes around the turn of the 19th century. In 1894 Bloomingdale Hospital had to be transferred again to a new site in White Plains, this time because of the growth of the City of New York. The new Bloomingdale changed its name in 1936 into New York Hospital, Westchester Division. The city division of New York Hospital obtained a psychiatric department again in 1932 through the creation of the Payne Whitney Psychiatric Clinic which is at the same time the department of Psychiatry of Cornell University Medical School.

Unlike many other hospital histories Prof. Russell's book—Prof. Russell is a former medical superintendent of Bloomingdale and professor emeritus of psychiatry of Cornell University Medical School—does full justice to the medical problems and facts arising from the long and eventful history of one of our oldest and most famous psychiatric institutions. "Moral treatment" was the main issue in old Bloomingdale; modern psychiatry, occupational therapy, and nursing education were in the foreground at White Plains. Psychiatry was one of the battlefields against the bloodletting and purging superstition. Old Bloomingdale was infested with malaria, and the beneficial effect of malaria on some mental diseases was known to Bloomingdale physicians as early as 1827 etc. etc.

In giving a full and excellent account of the medical history of Bloomingdale, the author has by no means neglected the administrative facts, which have such important medical implications in psychiatric institutions. We learn from Dr. Russell's book a great deal about the powerful influence of the governors, who e. g. for many decades controlled personally the "moral treatment" in spite of the resident physician; but we are spared the lengthy excursions into the excellent personal character and the successful business careers of these gentlemen, which form the backbone of so many other hospital histories. The necessary minimum of local and general medico-historical background is provided by the author, and the history of Bloomingdale does not lack in stories of "human interest," like the tragic case of Dr. Tilden Brown, physician of the asylum from 1852 to 1877, driven into insanity and later into suicide by a certain type of ruthless newspapermen.

Bloomingdale always laid the accent on treatment, and was primarily interested in that stepchild of our American system, who medically often ranges below the poor: the middle-class patient with limited financial means. Bloomingdale is an

important and glorious chapter in the history of American psychiatry. Nothing would have been easier than to write a pleasant Bloomingdale myth. The author has fortunately preferred to act as a true historian, and he gives us the full story with both shadows and lights. He uses mostly first hand material and handles it with great skill. Occasional cracks of the author on contemporary problems like strikes or health insurance which reveal a rather conservative attitude, do not materially detract from the value of this most recommendable book.

ERWIN H. ACKERKNECHT.

CONTRIBUTORS TO THIS NUMBER

Dr. ERWIN H. ACKERKNECHT is Assistant Curator of Physical Anthropology at the American Museum of Natural History, Central Park West at 79th Street, New York 24, N. Y.

Dr. ARTURO CASTIGLIONI is Professor of the History of Medicine at Yale University School of Medicine, New Haven, Conn.

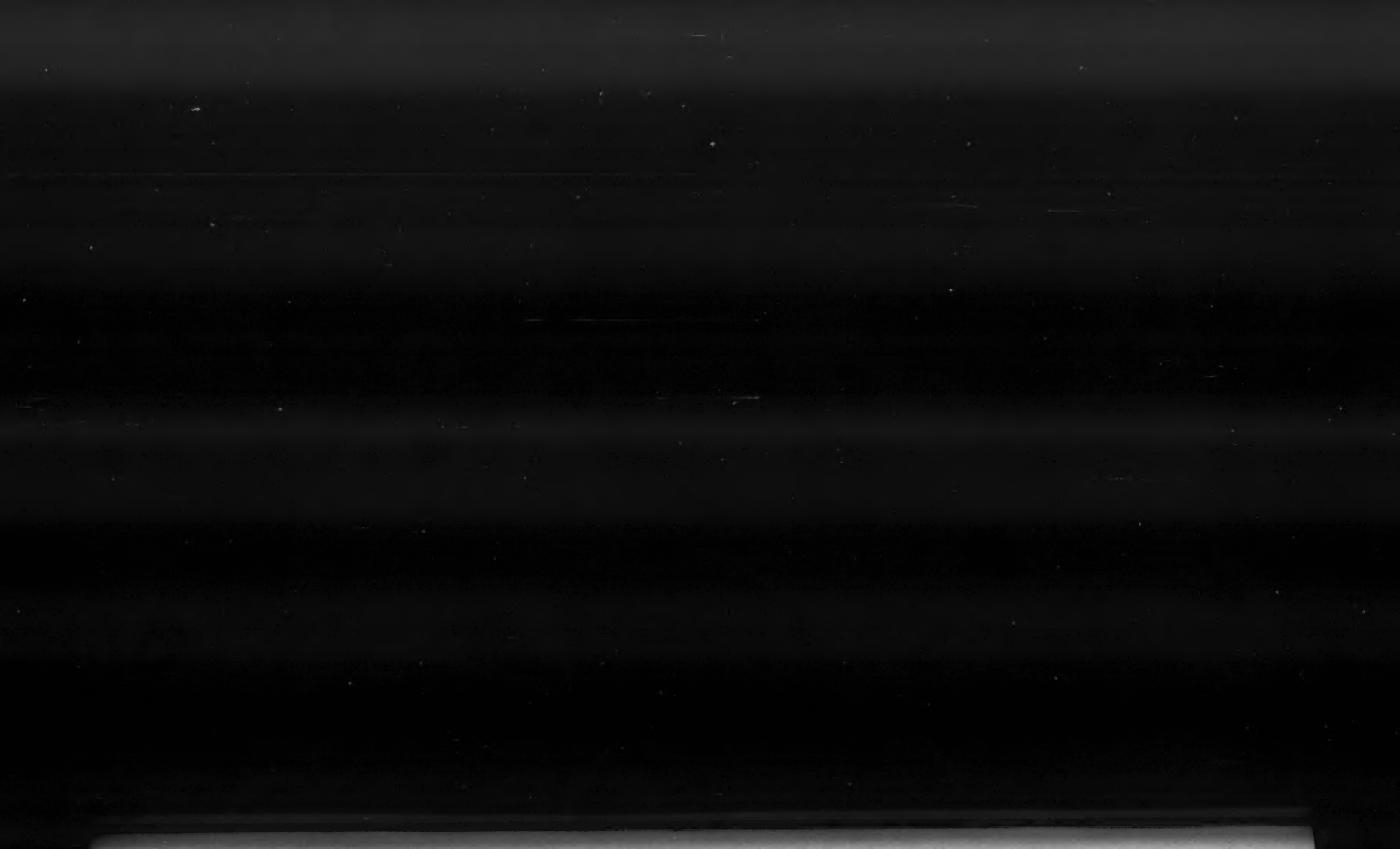
Dr. MORDECAI ETZIONY prepared his paper while he was an undergraduate at McGill University, from which he graduated in 1938. His present address is 4873 Park Avenue, Montreal, Canada.

Lt. Col. RICHARD H. FOLLIS, JR., MC, USA, is stationed at Headquarters Army Air Forces, Office of Flying Safety, Winston-Salem 1, N. C.

PEARL KIBRE, Ph. D., is Instructor in History at Hunter College, Park Ave. and 68th St., New York, N. Y.

Dr. LEWIS J. MOORMAN is Editor-in-Chief of the Journal of the Oklahoma State Medical Association. His address is 304 Osler Building, 1200 North Walker, Oklahoma City 3, Okla.

ANTONIO PACE is from the Department of Romance Languages, Syracuse University, Syracuse 10, N. Y.

Captain GEORGE ROSEN, MC, USA, is stationed at the Surgeon General's Office, Washington, D. C.

MABEL CLARE WEAKS is an Assistant in the Manuscript Division of The New York Public Library. Her address is 130 E. 57th St., New York 22, N. Y.